

E. & B. HOLMES
MACHINERY CO.

BUFFALO, New York, U. S. A.



WOODWORKING
MACHINERY

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E. & B. Holmes Machinery Co.

BUFFALO, N. Y., U. S. A.

Catalogue “H”

Woodworking Machinery

Home Machinery

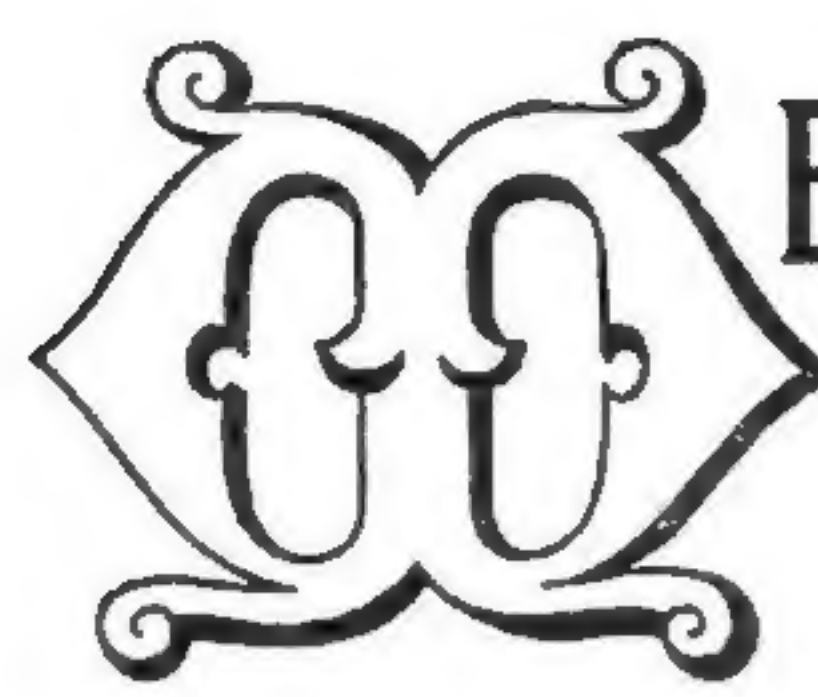
Variable Speed Countershafts

Cable Address
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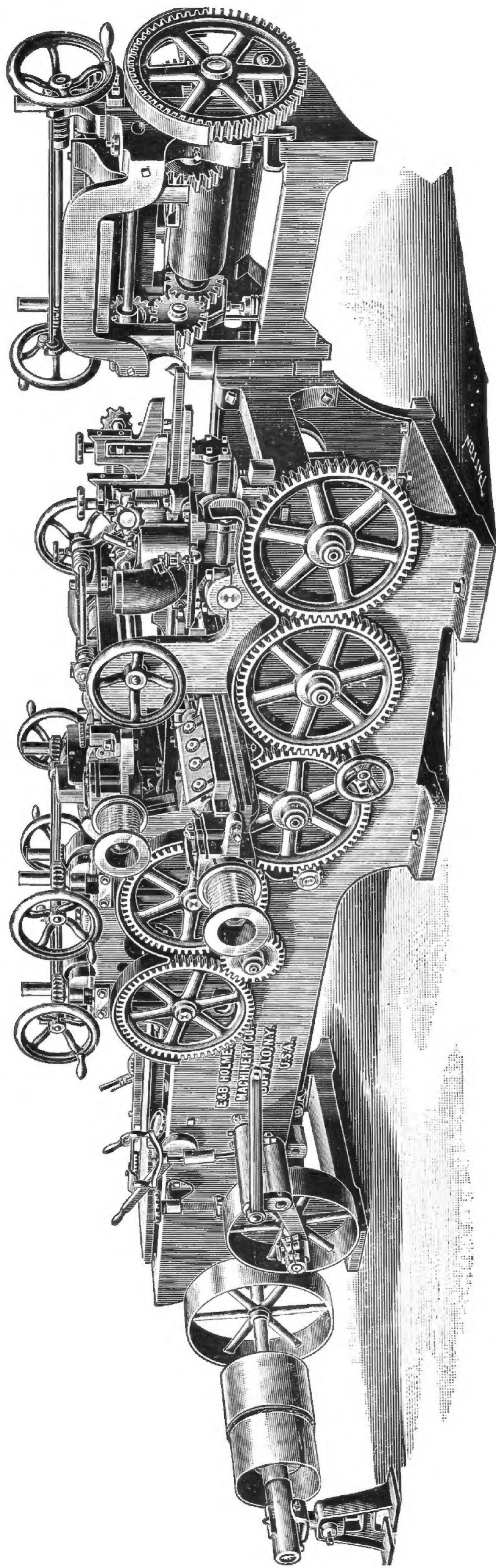
INTRODUCTORY

E invite the attention of users of **Woodworking Machinery** to our Catalog "H," illustrating our line of Woodworking Machinery, including machines for the manufacture of Hames, also our Variable Speed Counterehafts.

Our machines are all made to do first-class work, and we ask you to give the cuts and descriptions of the several machines your careful attention.

We also make a complete line of Cooperage Machinery and have a separate catalogue covering same which can be had for the asking.

E. & B. HOLMES MACHINERY CO.



No. 2. "Perfection" Planer and Matcher

No. 2

“Perfection” Planer and Matcher

This hardwood flooring machine dresses 15 inches wide by $\frac{3}{8}$ -inch to 6 inches thick. It is supplied with our Patent Variable Reversible Feed, and has a very strong and durable linked expansion gear. The rolls are heavily weighted to insure positive feeding at all times. The upper and lower cylinders have $2\frac{1}{2}$ -inch journals; have milled slots on four sides and can be fitted with caps to hold thin hard knives, if desired. The side spindles have $1\frac{1}{8}$ -inch journals and are $1\frac{3}{4}$ inches diameter where heads fit on. They are carried on ball step bearings and have sight feed oil cups on the upper bearings. The chip breakers are faced with hardened tool steel and can be adjusted close to the line of cut. The pressure bars are rigid, that over the lower cylinder being unusually heavy. The lower cylinder can be quickly unclamped and drawn out at the side for the purpose of setting and sharpening the knives. The improved hold-down shoes are easily adjusted and locked while the machine is in motion.

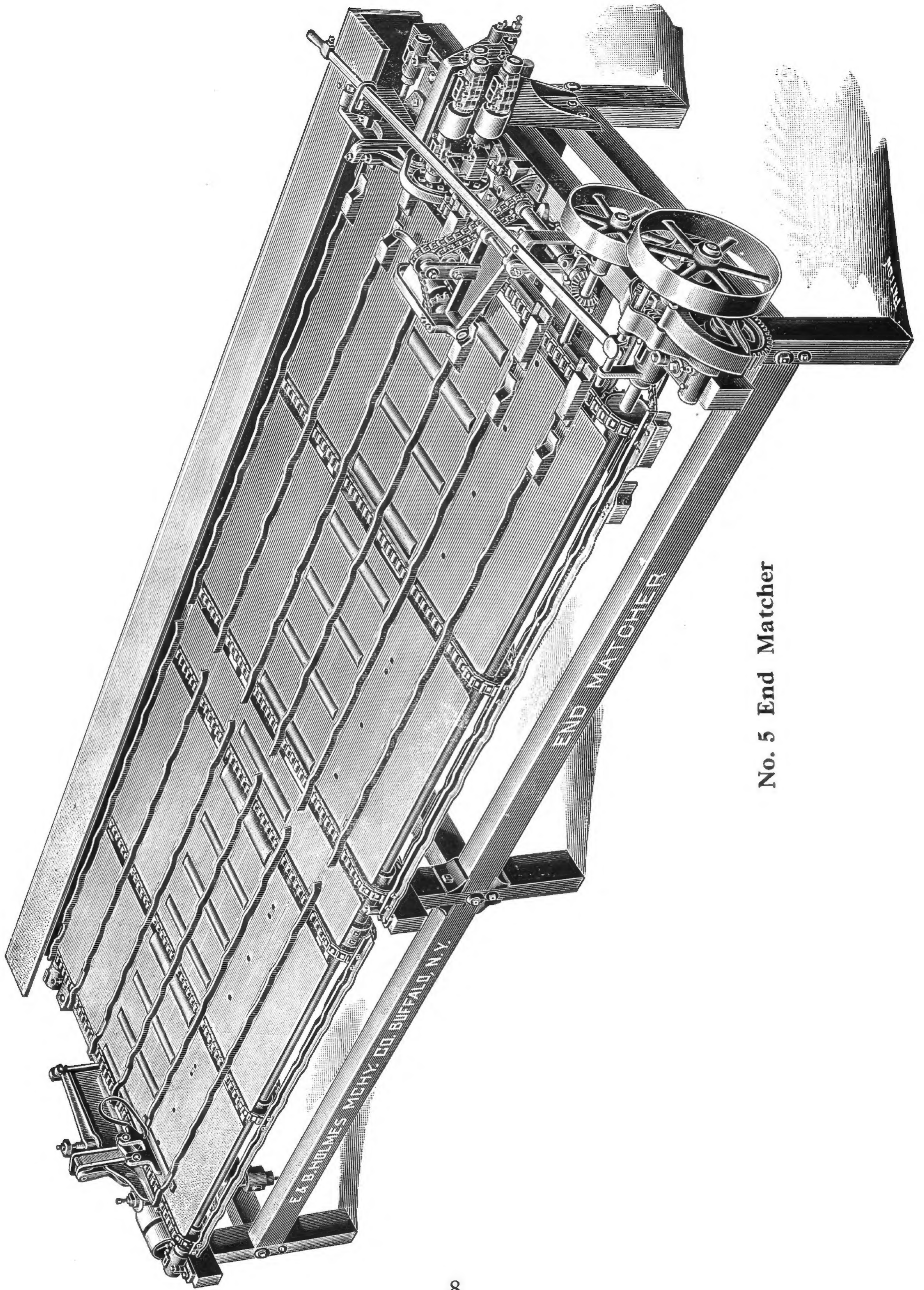
All belts are endless and of uniform width. We advise dressing the lumber face down, as the surplus stock can be removed by the top head, leaving a light cut for the lower head, which will produce superior work at a fast rate of feed. Both cylinders are placed before the side heads, which insures perfect matching.

We furnish with each machine four knives for each cylinder, one pair of four-sided slotted steel jointer heads with four $6\frac{1}{2}$ -inch knives on each head, one pair of Shimer heads or our own special hardwood Matcher heads, and one set of steel wrenches.

Belts Required

- 1 top cylinder belt, 21 feet 5 inches long, 5 inches wide.
- 1 top cylinder belt, 21 feet 3 inches long, 5 inches wide.
- 1 bottom cylinder belt, 18 feet 6 inches long, 5 inches wide.
- 2 matcher belts, 25 feet 7 inches long, 5 inches wide.
- 1 feed belt, 20 feet long, 5 inches wide.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
11,500 lbs.	15 x 5 ft.	14 x $8\frac{1}{2}$ in.	900	15	EMBARC



No. 5 End Matcher

No. 5

End Matcher

(For Tongueing and Grooving the Ends of Flooring.)

This machine will work flooring from $\frac{3}{8}$ -inch to $1\frac{1}{2}$ -inch in thickness and from 12 inches to 16 feet in length. It can be quickly changed for different sizes and is simple and accessible in every part. One operator only is required, and the machine has a capacity per day of 15,000 feet and upward, depending upon the size of stock and the rate of feed. In operating the machine, the flooring is placed between travelling angle bars and carried through the tongueing heads; it then passes on to the live rolls and is carried endwise to the end buffer (which is fitted with a steel wire brush to prevent rebounding), then through the grooving head and out of the machine.

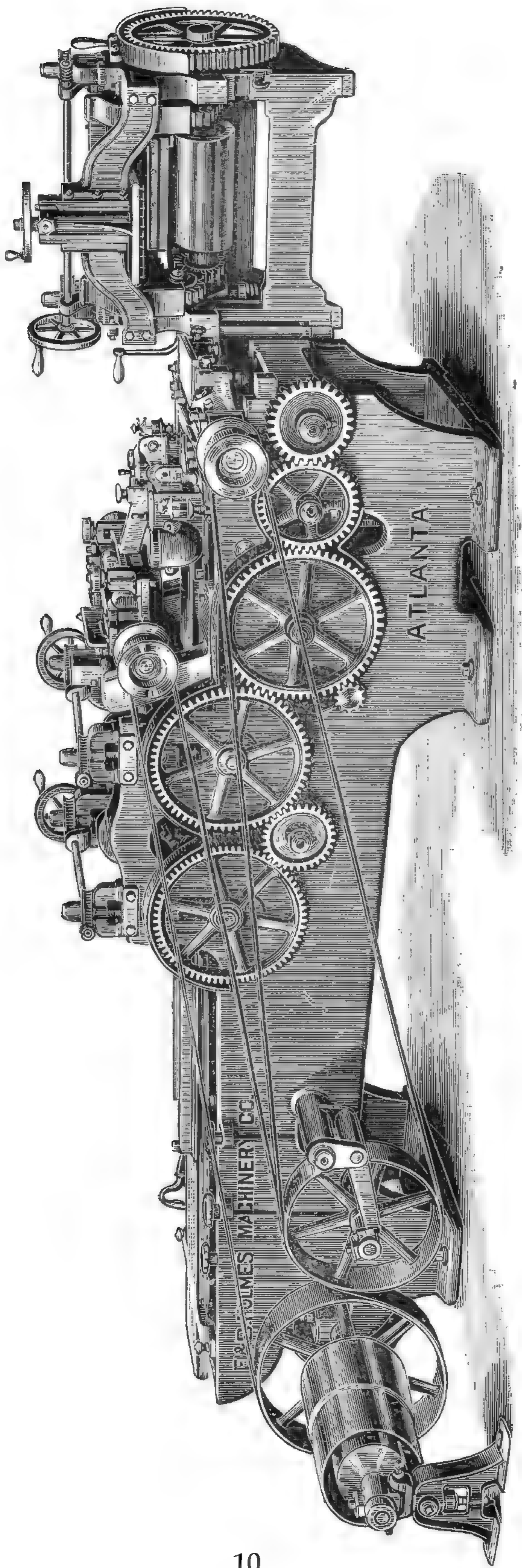
The feed gears are provided with a friction clutch, which will slip when necessary and prevent possible injury to the bars or chains. The pressure bar at the tongueing end is faced with a hardened steel shoe, finely grooved, which prevents end movement and insures square and perfect work. The steel cutterheads carry six bits and run in the same direction as the feed, which prevents all tearing out even at the fastest feed possible.

There are seventeen live rollers, $4\frac{1}{2}$ inches in diameter, driven by steel bevel gears. The top is covered with steel plates, with openings through which the live rollers project. The steel angle bars are spaced twelve inches apart and are carried on six chain belts driven by sprockets mounted on a shaft extending the entire length of the machine. Each machine is provided with one set of cutterheads and full set of wrenches.

The cut represents the rear view of a right-hand machine, the stock being fed in at the left-hand front end and discharging at the rear right-hand end. The machine is built either right- or left-hand as desired; when ordering specify which is required.

The countershaft can be placed above or below, the only change being to reverse the brackets carrying the idle pulleys for the belt running the grooving head.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
5,600 lbs.	9 x 22 ft.	10 x $5\frac{1}{2}$ in.	675	5	"GAIN"



No. 6. “Atlanta” Fast Feed Flooring Machine

No. 6

Atlanta Fast-Feed Flooring Machine

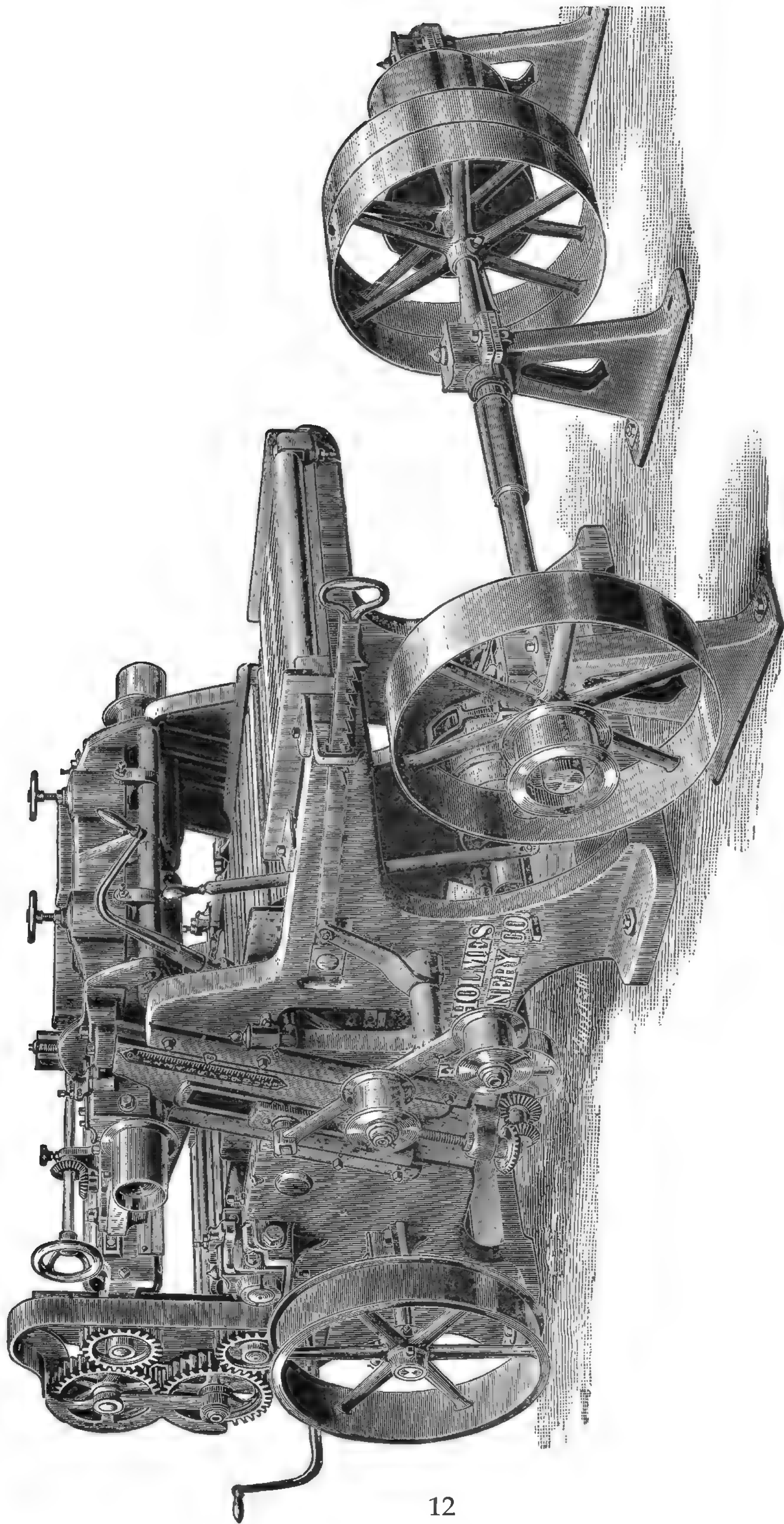
This machine is built to plane 7½, 15, 26 and 30 inches wide, and up to 4 inches thick. It is fitted with our powerful Variable Feed Device, has large bearings, and carries wide endless belts, which, with the great solidity of the machine, combine to make it a very practical and efficient machine. The Variable Feed Device enables the operator to regulate the rate of feed from nothing to the full capacity of the machine, which is of ample strength to withstand the hard and continuous service to which it is subjected by reason of the rapid rate of feed which can be carried, regardless of the depth of cut, width of material or quality of wood.

The cutter-heads are slotted on four sides and are of forged crucible steel, with journals 2½ inches diameter, running in self-oiling bearings, lined with compressed genuine babbitt metal. The pulleys are of large diameter and all belts are of ample width and endless, the tension being regulated by binding pulleys operated by levers and screws, which are placed within easy reach of the operator. The matcher belt tighteners tighten each belt separately and also guide the belts so they can never run together. The chip-breakers are shod with hardened cast-steel plates which can be brought close to the knives, thereby preventing all tearing out. The pressure bars are unusually heavy and are adjusted by self-locking hand screws. The lower cutter-head is perfectly accessible by reason of the rear rolls being swung aside in the manner shown, and owing to the eccentric locking lever and powerful hinge joint, the strength and rigidity of the machine is not impaired in the least. The matcher spindles are of special crucible steel 1½ inches in diameter by 1¾ inches where heads fit on and run on ball bearings at the bottom. The matcher yokes are heavy, and firmly clamped to the large steel cross bar on which they move. The shifting screws work in long phosphor bronze nuts and can be operated together, thus shifting both heads and the parallel steel guide across the machine without danger of changing the width of the work. The matching is done over hardened steel bed pieces and the hold-downs are of ample strength to insure parallel matching at all times. Each machine is furnished with 4 knives for each cylinder, one set of matcher heads, one set of 4-sided slotted steel jointer heads, and one set of steel wrenches.

Belts Required

- 1 top cylinder belt, 21 feet 5 inches long, 5 inches wide.
- 1 top cylinder belt, 21 feet 3 inches long, 5 inches wide.
- 1 bottom cylinder belt, 20 feet 8 inches long, 5 inches wide.
- 2 matcher belts, 22 feet 6 inches long, 5 inches wide.
- 1 feed belt, 20 feet long, 5 inches wide.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
7½-in. 9,000 lbs.	15 x 5 ft.	14 x 8½ in.	850	15	GENTEEL
15-in. 10,000 lbs.	15 x 5 ft.	14 x 8½ in.	850	15	GRAND
26-in. 11,000 lbs.	15 x 5 ft.	14 x 8½ in.	850	20	GREET
30-in. 12,000 lbs.	15 x 5 ft.	14 x 8½ in.	850	25	GRIP



No. 9. "Niagara" Endless Bed Double Surfacacer

No. 9

“Niagara” Endless Bed Double Surfacers

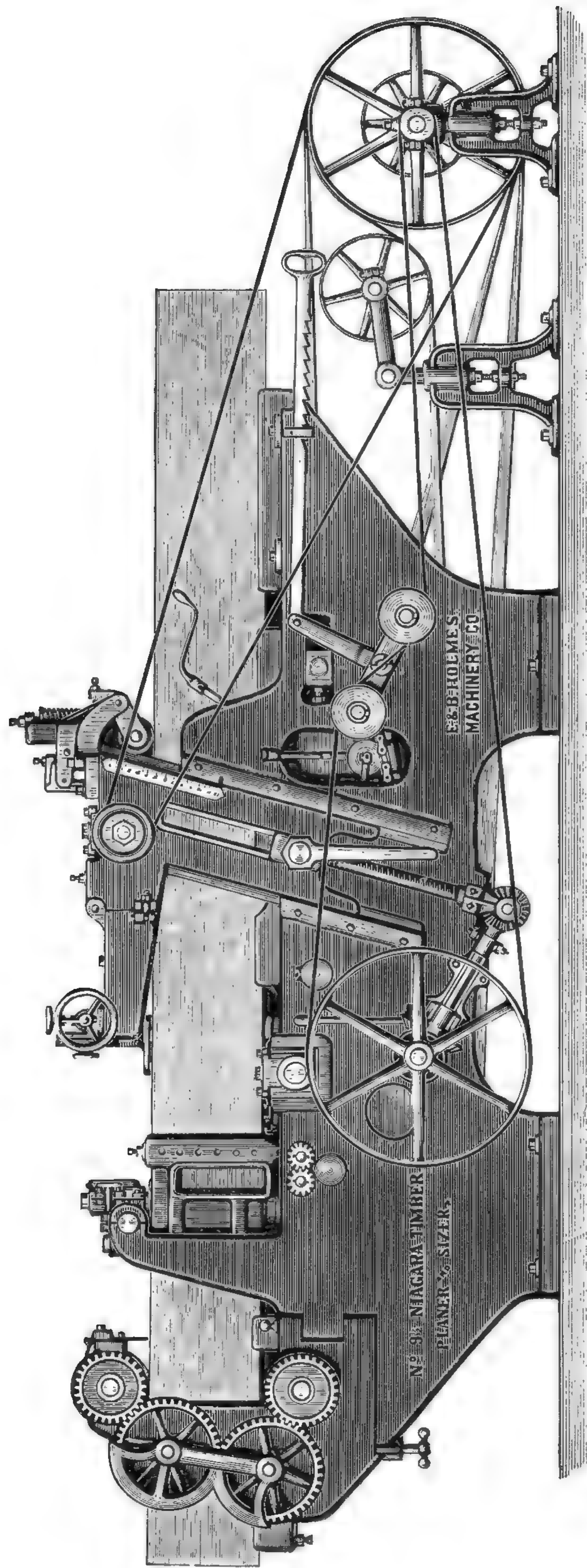
This machine is built to work 26 and 30 inches in width and 12 inches in thickness; the cutter-heads are made of the best crucible steel slotted on four sides, carrying four knives. The top cutter-head is double belted; lower cutter-head single belted. Journals are $2\frac{1}{2}$ inches diameter running in improved journal boxes. The feeding out rolls are $8\frac{1}{2}$ inches diameter, provided with heavy gearing, all of which are placed upon a swinging frame, which opens when desired, giving free access to the under cutter-head for the purpose of removing knives, etc. The top cutter-head is raised and lowered either by hand or power and securely locked at any point by means of our patent tapering way, inclined binding-plate, and friction locking device, thus insuring perfect work. The bed is provided with patent anti-friction-bearings, which prevent the lags from wearing or cutting, and the lags are also securely held down.

The bearings are very wide, giving solid support to the lags, which are heavily ribbed between the bearings. The pressure-bar over the under cutter-head is provided with diagonal ribs, which prevent marking the lumber while being worked. This machine is also fitted with our patent equalized divided rolls, which give uniform pressure irrespective of inequalities in material and enables the operator to apply any pressure that may be needed, and permit the working of boards of different thicknesses at the same time. Our improved Variable Feed Device is also applied to this machine, allowing the operator to change the rate of feed instantly, to suit the varying conditions. Countershaft runs in three floor hangers.

Belts Required

- 2 top cutter-head belts, 22 feet long, 5 inches wide.
- 1 bottom cutter-head belt, 25 feet 8 inches long, 5 inches wide.
- 1 feed belt, 25 feet 6 inches long, 5 inches wide.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
26-in. 6,800 lbs.	10 x 5 ft.	14 x $8\frac{1}{2}$ in.	850	15	GOVERN
30-in. 8,000 lbs.	10 x 5 ft.	14 x $8\frac{1}{2}$ in.	850	15	GILT



No. 9 1-2. "Niagara" Timber Planer

No. 9 $\frac{1}{2}$

“Niagara” Timber Planer

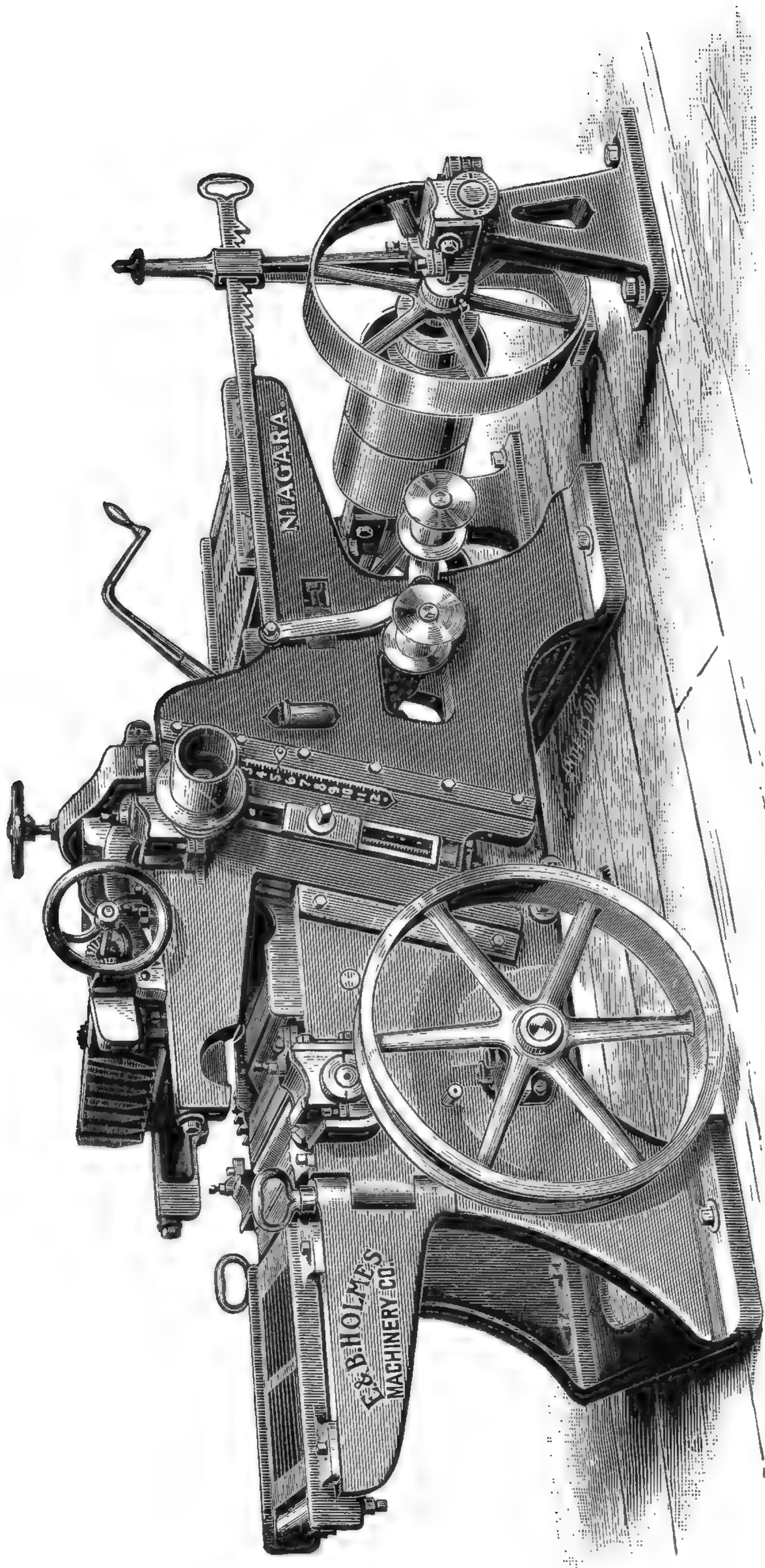
The general construction as well as the workmanship of this machine is the same as that of the No. 9 Niagara Surfacer, with the extra attachments and devices for dressing timber on four sides especially provided. The 26-inch machine will plane timber on four sides 12 x 12 inches and the 30-inch machine 12 x 16 inches. When the side heads are removed the machines will plane their full rated width, namely 26 and 30 inches respectively. The machine is not only well adapted to dressing and sizing timber and dimension lumber, but can also be used to advantage in planing and matching flooring of all widths and thickness, as the cutter-head spindles are so made and arranged that matcher heads can take the place of the sizer cutter-heads, making it a machine suitable for all work.

Our Variable Feed Device is applied to this machine, whereby any rate of feed desired up to 150 feet per minute, can be obtained, according to the work to be done. This is accomplished by simply moving a lever convenient to the operator.

Belts Required

- 2 top cylinder belts, 22 feet long, 5 inches wide.
- 1 bottom cylinder belt, 25 feet 8 inches long, 5 inches wide.
- 2 side head belts, 28 feet 3 inches long, 5 inches wide.
- 1 feed belt, 25 feet 6 inches long, 5 inches wide.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
26-in. 10,000 lbs.	12 x 5 ft.	14 x 8 $\frac{1}{2}$ in.	850	20	HABIT
30-in. 11,000 lbs.	12 x 5 ft.	14 x 8 $\frac{1}{2}$ in.	850	20	HOLLOW



No. 10. "Niagara" Endless Bed Planer

No. 10

“Niagara” Endless Bed Surfacers

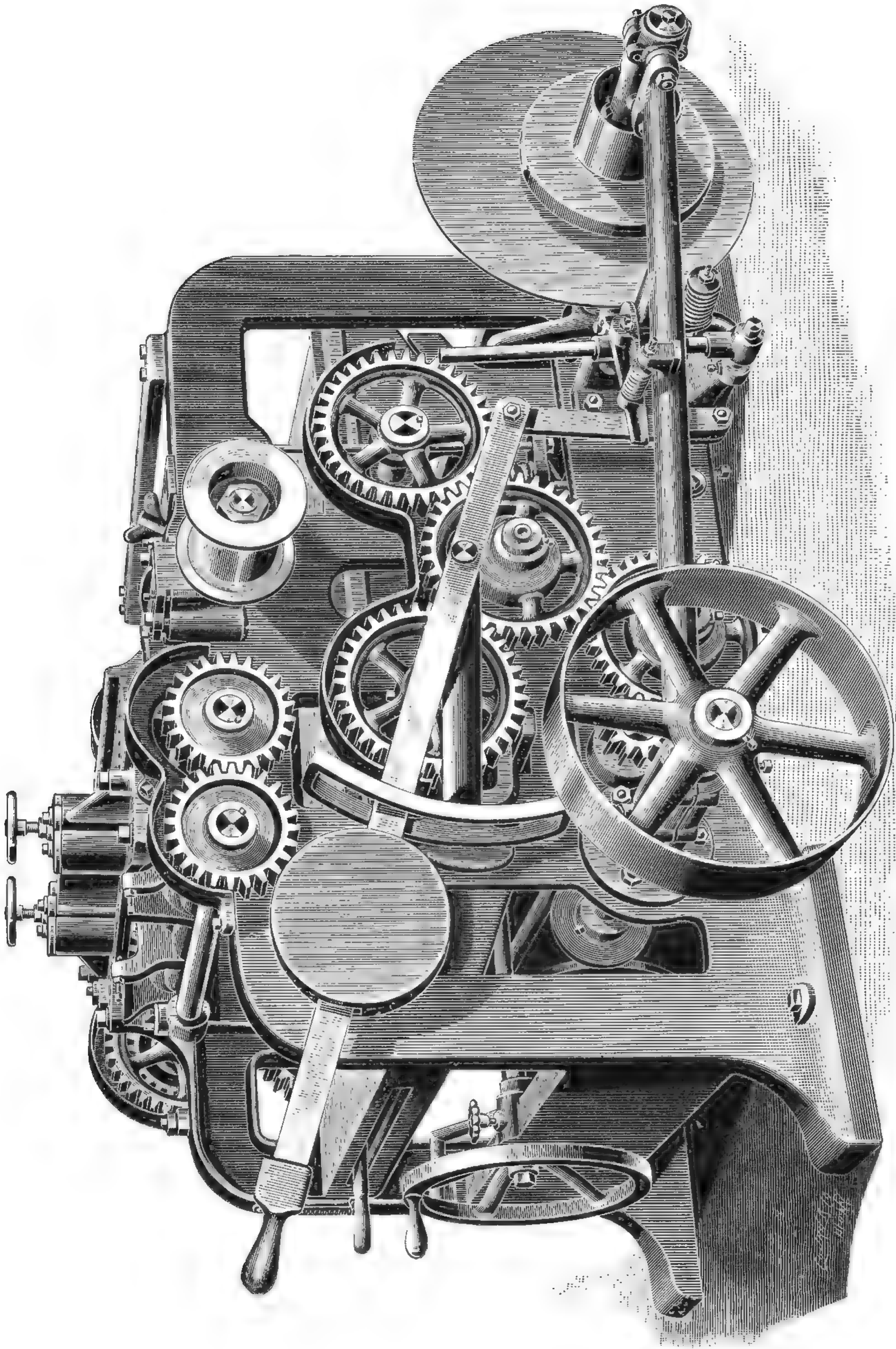
This machine is built in two sizes to work 26 and 30 inches in width, and 12 inches in thickness. The cutter-heads are made of the best crucible steel, slotted, carrying four knives. The journals are 2½ inches in diameter and pulleys are double flanged, 5 inches in diameter, 6 inches face. The top cutter-head is raised and lowered, and firmly locked at any point by means of patent tapering ways, inclined binding plates and friction-locking device, thus insuring perfect work. The lags are heavily ribbed between the wide anti-friction bearings, with which the bed is fitted, preventing cutting and wearing, and are securely held down by side guides so that they cannot come in contact with the knives. This entirely obviates the trouble and annoyance of endless planers as usually constructed.

The pressure bar over the under cutter-head is provided with diagonal ribs, which prevent marking the lumber. The patent equalized dividing rolls is another important feature of this machine, as uniform pressure is obtained, irrespective of inequalities of material, as the operator can apply any pressure that may be needed, permitting the working of boards or timber of different thicknesses at the same time. The countershaft runs in heavy floor bearings.

Belts Required

- 2 top cylinder belts, 22 feet 5 inches long, 5 inches wide.
- 1 bottom cylinder belt, 25 feet 8 inches long, 5 inches wide.
- 1 feed belt, 25 feet 6 inches long, 5 inches wide.

Weight	Floor Space	T. and L. Pulley	Speed	H.P.	Code Word
26-in..single, 4,800 lbs.	10 x 5 ft.	14 x 8½ in.	850	15	HERO
26-in. double, 5,300 lbs.	10 x 5 ft.	14 x 8½ in.	850	15	HAMMER
30-in. single, 6,000 lbs.	10 x 5 ft.	14 x 8½ in.	850	15	HIT
30-in. double, 6,500 lbs.	10 x 5 ft.	14 x 8½ in.	850	15	HEARTY



No. 12. Variable Feed Planer and Smoother

No. 12

Variable Feed Planer and Smoother

This machine is built to plane one side 28 and 32 inches in width, by 6½ inches in thickness. It is fitted with our Variable Feeding Device, enabling the operator to work the machine to its fullest capacity at all times, as the feed of the machine can be regulated instantly to suit the work being done. The frame of this machine is massive; bed rigid, feed powerful, and the cutter-head properly balanced and double belted, which, combined with the improved sectional chip breakers, divided rolls and other improvements, makes it the best machine of its kind. The bed is raised and lowered on heavy inclines or wedges moved by power or hand, and securely locked to the sides by compound gripping levers operated by a handle extending from the front of the bed.

The rolls are six inches in diameter and are all powerfully geared, the lower ones being carried on levers by which they can be instantly raised above the level of the bed, so that wet or icy lumber can be planed with perfect ease.

The cutter-head is made of a crucible steel forging, carries two wide knives and has journals 2½ inches in diameter, running in long self-oiling bearings, fitted with screw adjusting caps, whereby the use of liners between the caps and boxes is entirely avoided. All expansion and idle gears are provided with self-oiling hubs, and will run for months without attention.

Pulleys on cutter-head are 5 inches in diameter, by 6 inch face and should make 4,000 revolutions per minute.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
28-in. 5,000 lbs.	7 x 7 ft.	12 x 8½ in.	850	10	HIDDEN
32-in. 5,500 lbs.	7 x 7 ft.	12 x 8½ in.	850	10	HOPEFUL



No. 15. Hand Jointer or Buzz Planer

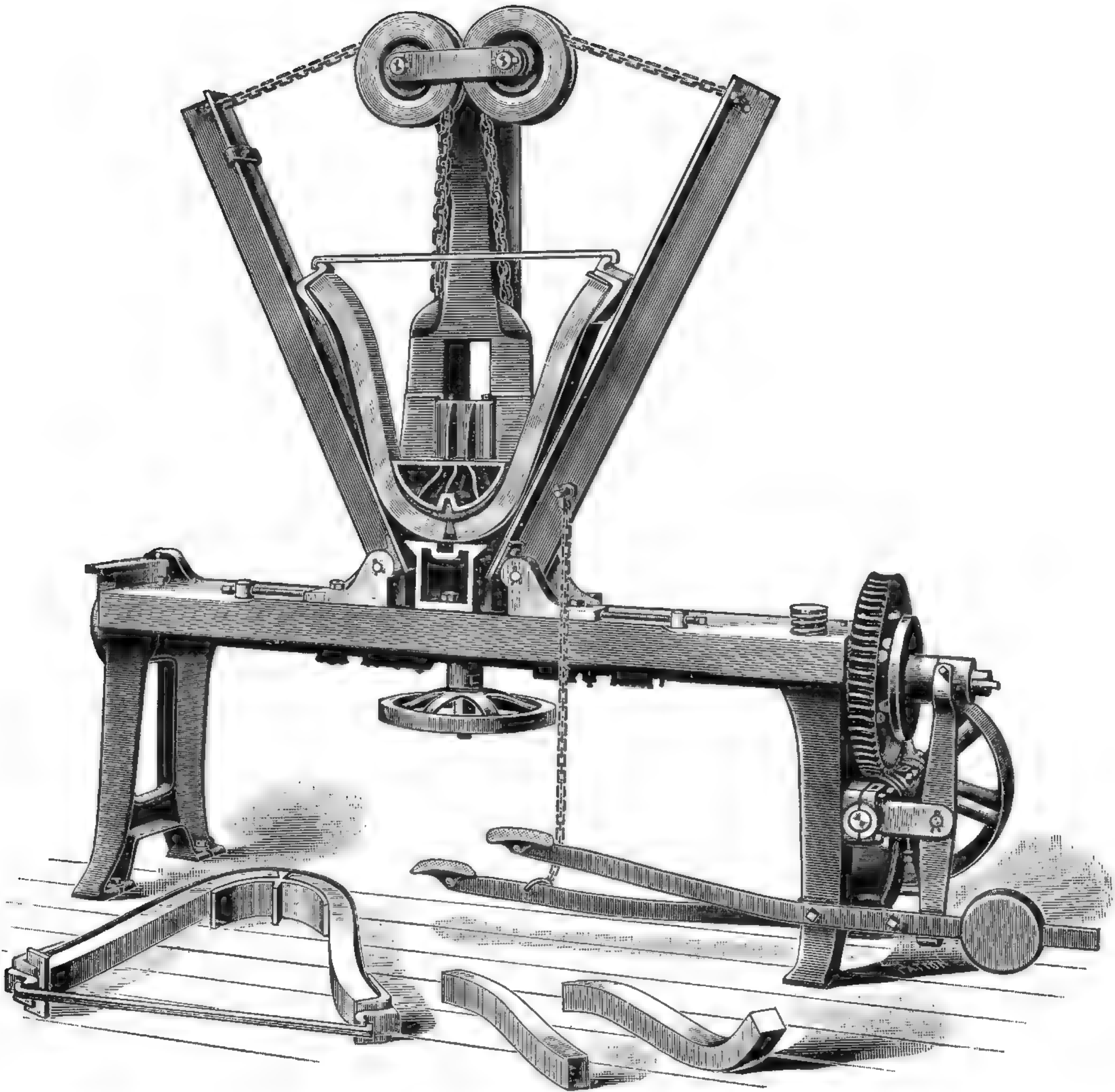
No. 15

Hand Jointer or Buzz Planer

This machine is built in four sizes, 12 inches, 16 inches, 20 inches and 24 inches. The heavy cored frame has a broad triangular base, which gives three points of bearing on the floor. The base being narrow at the working end of the machine, enables the operator to stand close to the machine without danger of treading upon the flange, as is the case with machines of usual construction. The table carriages are accurately fitted to the planed top of the main frame, and are provided with long inclined ways, to which the tables are securely gibbed, so that perfect alignment is maintained at all times. The front table is provided with an independent lever movement by which the depth of cut can be instantly varied to suit the class of work being done. The lever is counter-balanced, and is provided with a locking device so that the table is firmly held in the position in which it is placed. The tables are 7½ feet in length, of ample thickness, and are heavily ribbed and braced so that the surfaces will remain absolutely true at all times. The steel lips, which form the edges of the table, are brought very close to the cutters, thereby giving the smallest possible opening. Both tables can be drawn away from the cutter-head, giving free access to the cutters for the purpose of sharpening and setting the same. The cutter-head is a solid steel forging, slotted on four sides and provided with special steel bolts for holding the cutters securely in place, and while the circle described by the cutters is as small as possible, the journals are unusually large, the rear one being two inches in diameter, and of ample length.

The front bearing is provided with a flat steel cap, which permits rabbetting to be done ⅞-inch in depth and of any desired width, the stock being supported by a projecting arm secured to the front of the table, and extending to the rear one. Both bearings are self-oiling and are capable of adjustment without the use of liners. The bearings are yoked together and are therefore always in line, and the downward extending spout affords a convenient means of attaching a pipe for the purpose of removing the shavings in the usual manner. The adjustable bevel gauge can be easily and quickly adjusted to any desired angle; the safety guard, which covers that portion of the cutter-head not in use, is hinged to the rear table, and when not required remains suspended at the side of the machine.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
12-in. 1,500 lbs.	7½ x 2 ft.	10 x 6½ in.	850	2	LABOR
16-in. 1,850 lbs.	7½ x 2 ft.	10 x 6½ in.	850	2	LARGE
20-in. 2,200 lbs.	7½ x 2 ft.	10 x 6½ in.	850	3	LAST
24-in. 2,500 lbs.	7½ x 2 ft.	10 x 6½ in.	850	3	LEAD



No. 16. Hame Bending Machine

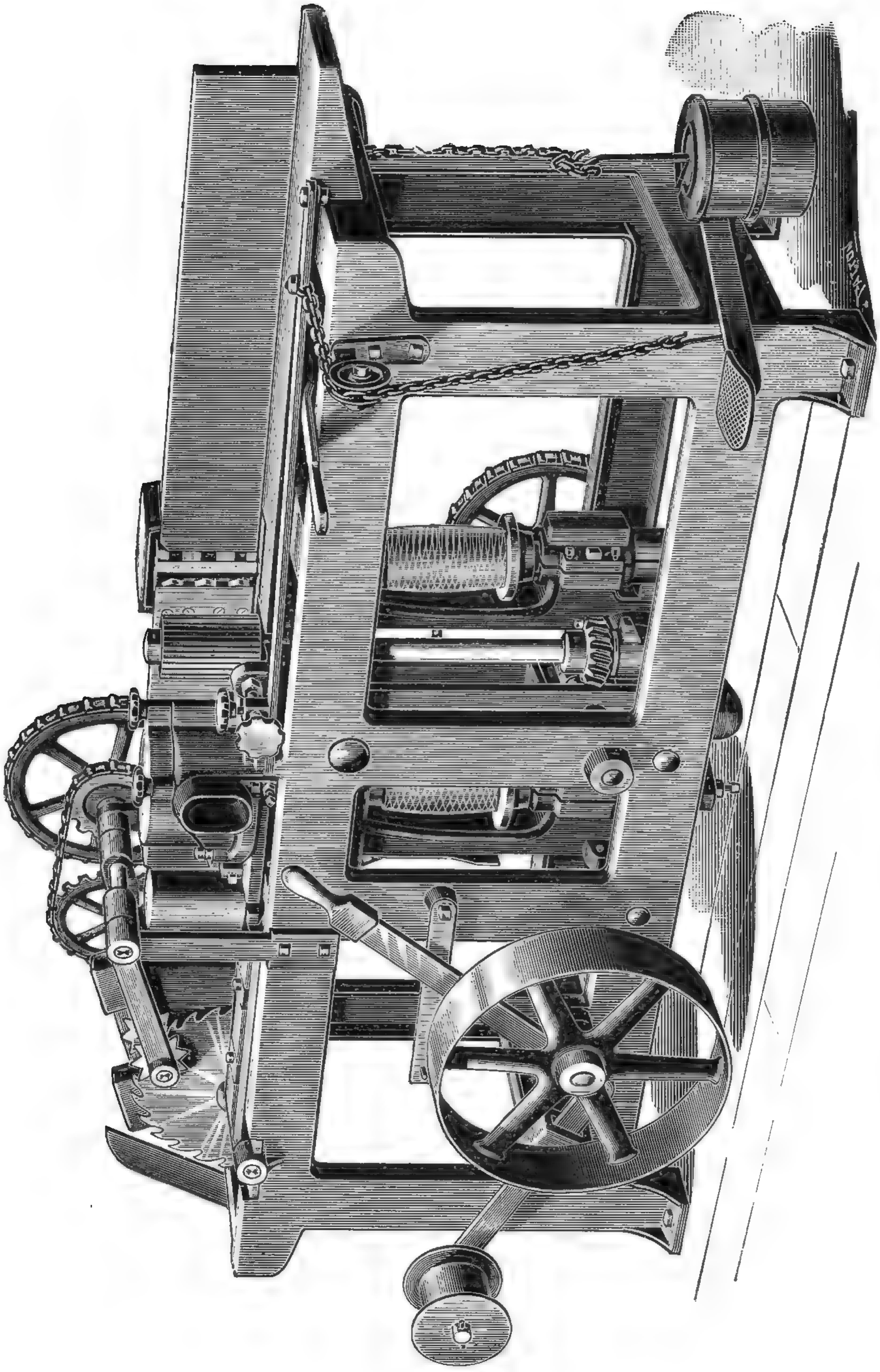
No. 16

Hame Bending Machine

This machine will bend stock for two pairs of hames at once, in a rapid and perfect manner. The steel bending levers are closed by worm gearing and released by disengaging a clutch, allowing them to open quickly.

It is furnished with one back strap, center block and necessary wrenches. It has a capacity of 3,000 pairs of hames per day of ten hours.

Weight.	Floor Space.	Friction Pulley.	Speed.	H. P.	Code Word.
1,800 lbs.	3 x 9 ft.	18 x 4½ in.	500	1	MAGIC



No. 17. Hame Planing and Re-Sawing Machine

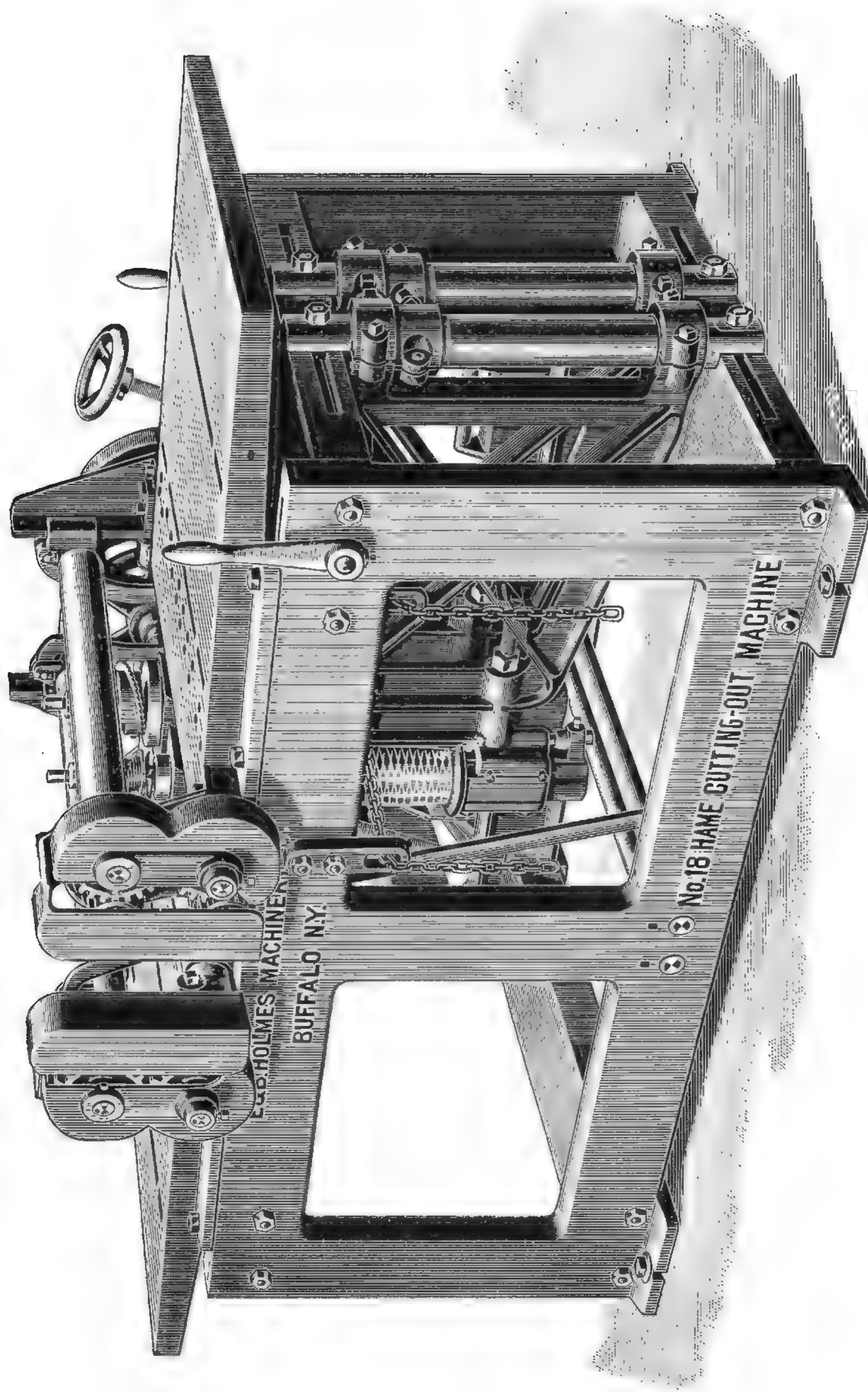
No. 17

Hame Planing and Re-Sawing Machine

This machine will take the stock as it comes from the bender, plane it on both sides smooth, straight, out of wind and re-saw it exactly in the center, thus preparing the material for a pair of hames, ready for the cutting-out, finishing and sanding machines. The straightening guide in front of the first cutter-head can be easily adjusted by a hand lever to take off enough to straighten the stock. The second cutter-head planes it to the desired thickness, and it then passes between the rear feed rolls, through the splitting saw, and is carried clear of the machine by double spur feed rolls placed directly over the saw, thus making the machine perfectly safe to operate.

The machine is simple in construction, easily operated and has a capacity of 2,500 pairs of hames per day. Speed of cutter-heads, 4,200 turns per minute; speed of saw, 2,100 turns per minute. The machine is furnished with one set of cutter-heads, one saw and full set of wrenches.

Weight.	Floor Space.	T. and L. Pulley.	Speed.	H. P.	Code Word.
3,000 lbs.	8 x 10½ ft.	12 x 8½ in.	1,050	5	MAXIM



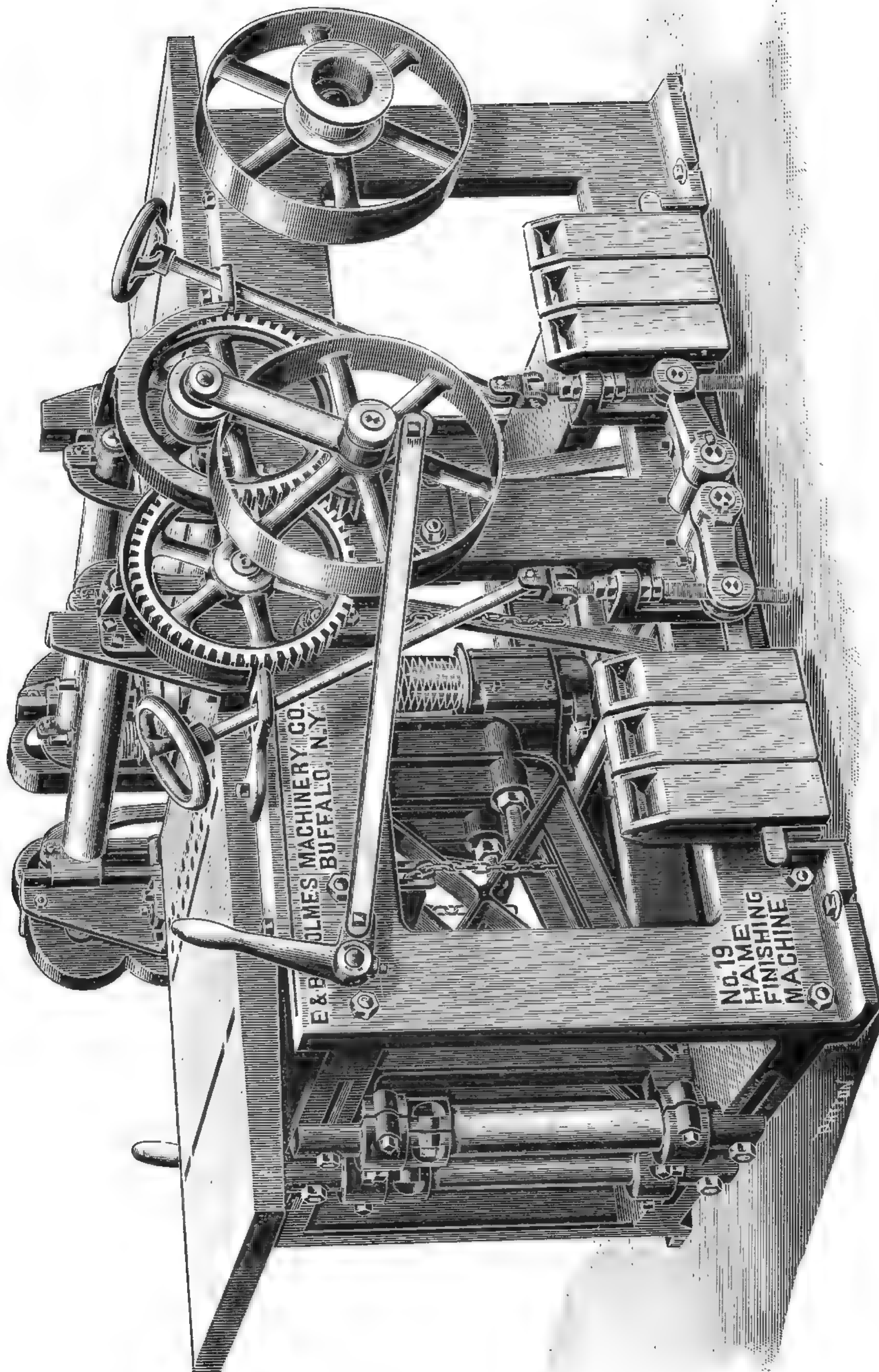
No. 18. Hame Cutting-Out Machine

No. 18

Hame Cutting-Out Machine

After the stock has been planed and sawed to the desired thickness, each piece is placed upon a wooden pattern and fed through this machine between the swinging cutter-heads, which, by means of the guide rolls, cut the stock to the exact shape of the pattern. As the cutter-heads wear down, extra guide rolls of slightly varying diameter are provided, so that the hames are always of uniform size. The machine has a capacity of 1,000 pairs of hames per day of ten hours, and is furnished complete with one set of cutter-heads, 32 guide rolls, and full set of wrenches.

Weight.	Floor Space.	T. and L. Pulley.	Speed.	H. P.	Code Word.
3,500 lbs.	4 x 10 ft.	12 x 8½ in.	850	8	MAJOR



No. 19. Hame Finishing Machine

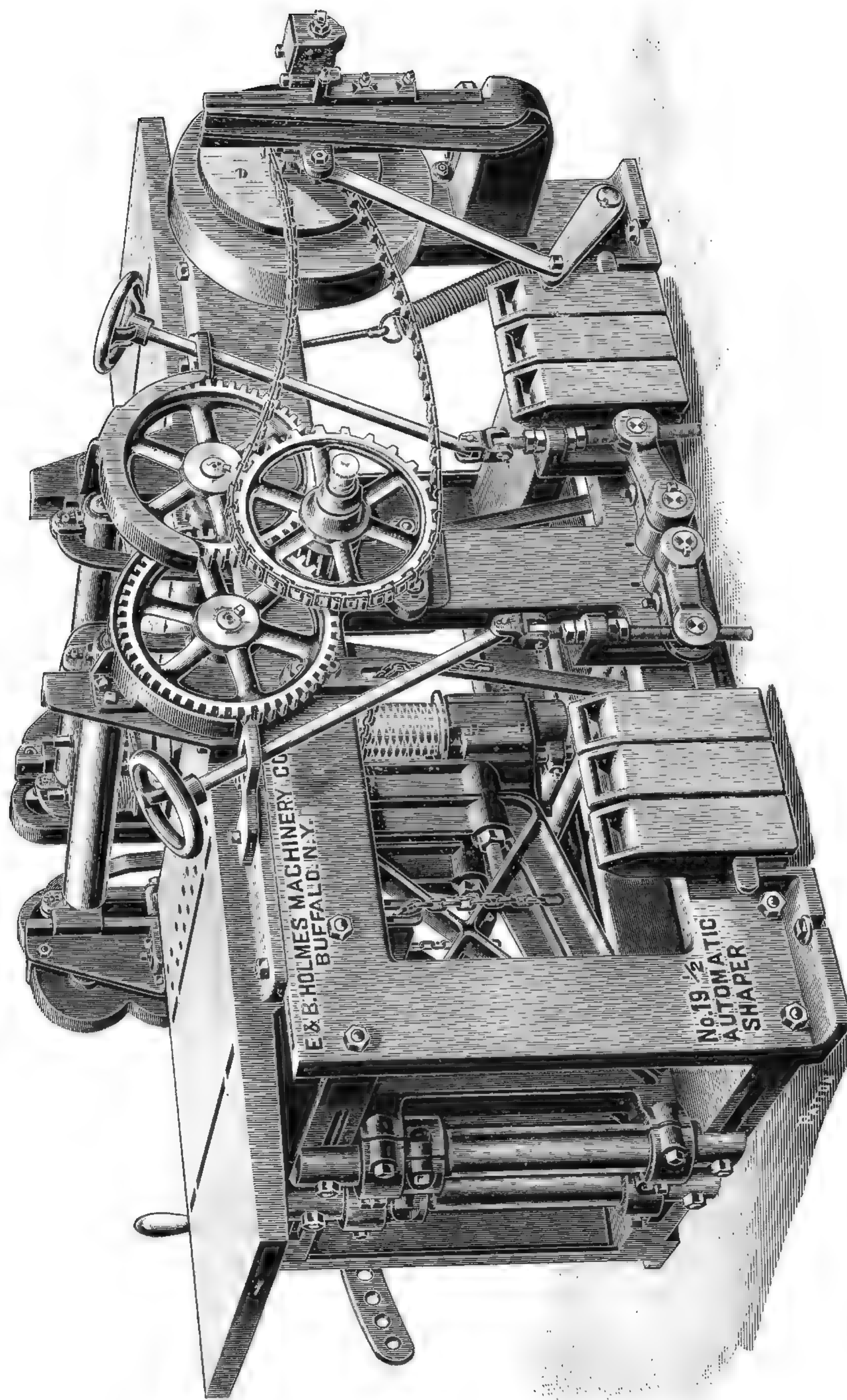
No. 19

Hame Finishing Machine

The hames are placed upon a pattern and fed through this machine, passing between cutter-heads which are supported on swinging frames, thus following the curved pattern and being rounded to the desired shape. The machine will finish hames in a perfect manner, and has a capacity of 750 pairs of hames per day of ten hours.

The cutters are easily kept in order and retain their exact shape until worn out. The machine is furnished complete with one set of cutter-heads and full set of wrenches.

Weight.	Floor Space.	T. and L. Pulley.	Speed.	H. P.	Code Word.
3,400 lbs.	4 x 10 ft.	12 x 8½ in.	850	8	METAL



No. 19 1-2. Double Spindle Automatic Shaper

No. 19 1-2

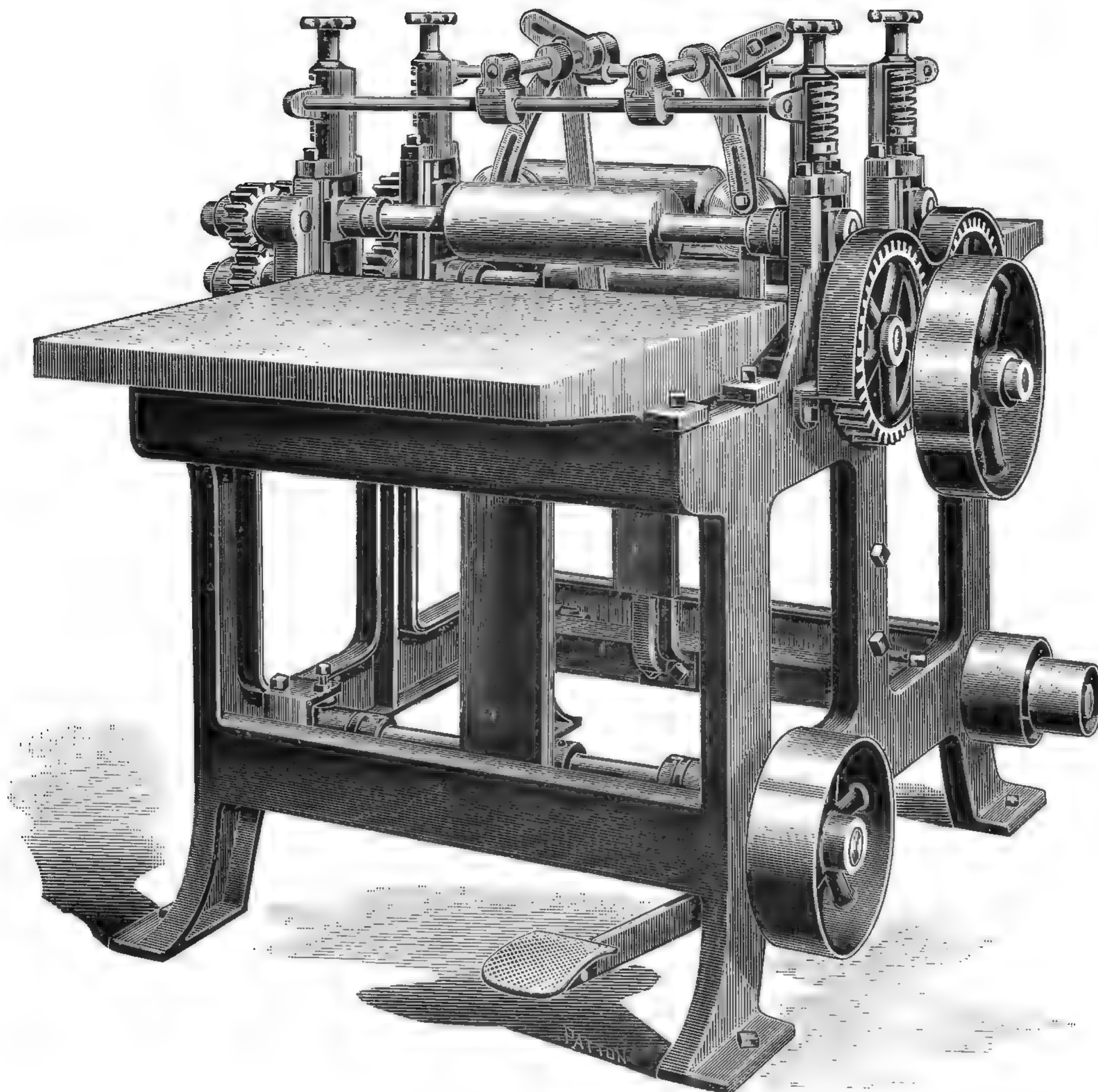
Double Spindle Automatic Shaper

This machine is adapted to that class of work having irregular or curved edges, such as furniture, carriages, agricultural machinery, etc. Each piece is placed upon a wooden pattern and fed through the machine, passing between the swinging cutter-heads, which by means of the guide rolls cut the stock to the exact shape of the pattern. The cutters are radial, which prevents tearing out when cutting against the grain, while the regular feed produces perfectly smooth work but little or no sanding being required.

The machine is fitted with our patent Variable Feeding Device, by which the rate of feed can be instantly changed, and when desired can be stopped or reversed and the stock backed out of the machine. It is controlled by a single lever that is self-locking when set for the desired rate of feed.

The feed rolls raise $6\frac{1}{2}$ inches and the cutter-heads can be opened to admit stock 26 inches wide. The spindles are $1\frac{1}{4}$ inches in diameter by $6\frac{1}{2}$ inches long where the cutter-heads are fitted on and are supported on ball bearings at the lower ends. The machine can be operated by unskilled labor and has a large capacity depending upon the kind of work and the rate of feed. One set of cutters of any desired pattern is furnished together with one set of wrenches and countershaft.

Weight.	Floor Space.	T. and L. Pulley.	Speed.	H. P.	Code Word.
3,800 lbs.	5 x 12 ft.	12 x $8\frac{1}{2}$ in.	850	8	MICRO

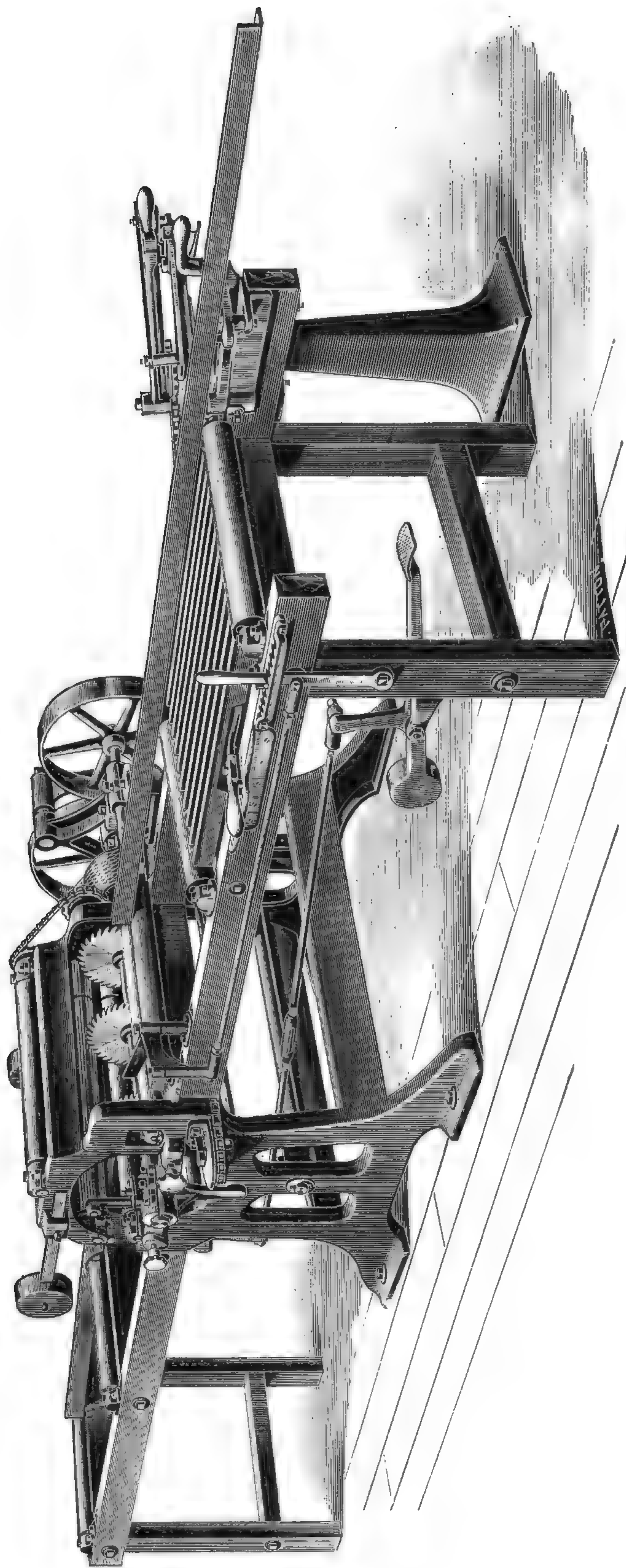


No. 20

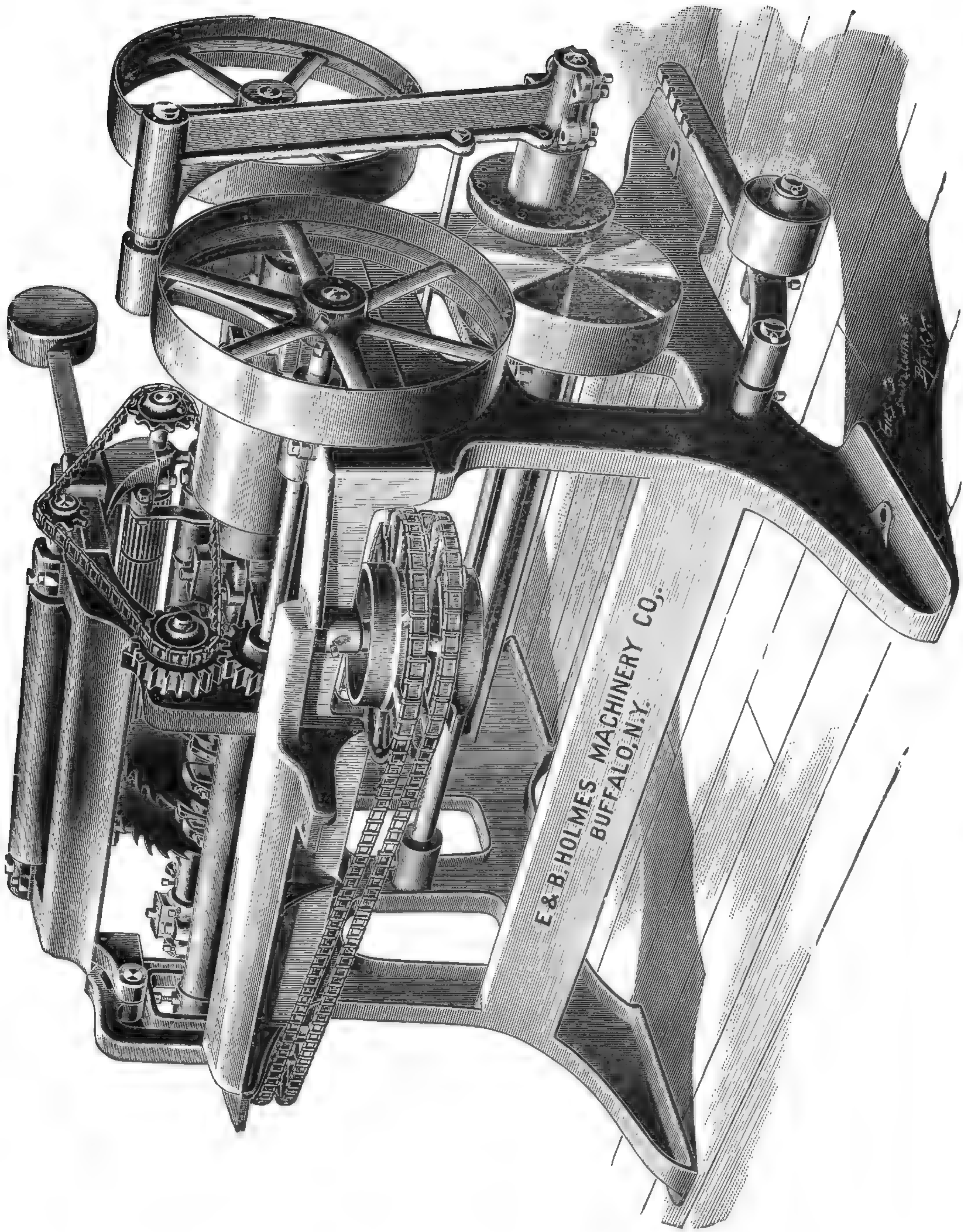
Hame Sanding Machine

This machine will polish hames on both sides in a perfect manner; is simple in construction, easily kept in order, and can be operated by a boy. It has a capacity of 1,000 pairs of hames per day of ten hours, and is furnished complete with two polishing belts, and one set of wrenches. The countershaft should be placed directly overhead, and make 500 revolutions per minute.

Weight.	Floor Space.	T. and L. Pulley.	Speed.	H. P.	Code Word.
2,400 lbs.	4½ x 6½ ft.	10 x 5½ in.	500	3	MINIM



No. 24. Improved Variable Feed Gang Ripping and Straightening Machine
(See Description Page 35.)



No. 24. Improved Variable Feed Gang Ripping and Straightening Machine
Side View, Showing Variable Feed.

Improved Variable Feed Gang Ripping and Straightening Machine

This machine is made in 3 sizes, 24-inch machine furnished with 2 saws and 2 extra saws; will cut between saws 13 inches; will cut between stationary saw and long guide, 5 inches.

30-inch machine furnished with 3 saws and 3 extra saws; will cut between saws 20 inches; will cut between stationary saw and long guide, 6 inches.

36-inch machine is furnished with 3 saws and 3 extra saws; will cut between saws 26 inches; will cut between stationary saw and long guide, 6 inches.

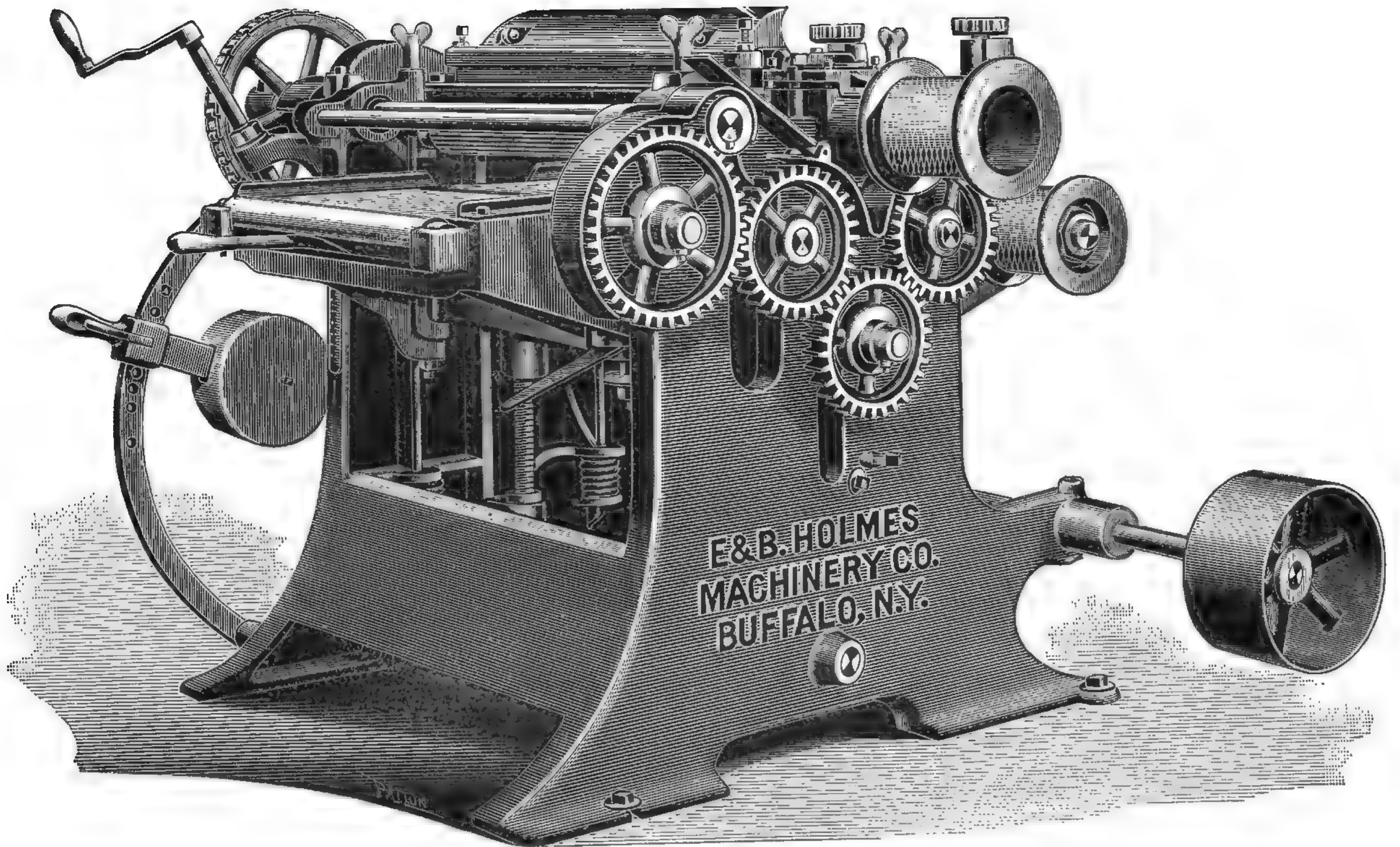
The Variable Feed Device applied to this machine is of great importance, as by its use lumber can be fed to the saw as rapidly as is consistent with good work, and the feed can be instantly changed to suit the varying conditions of the material being worked, thus securing the greatest possible output with the least amount of wear and tear. The feed is also reversible so that the lumber can be quickly backed out of the machine when necessary.

One of the leading features of the machine is the Straightening Guide, which is made of rolled steel, planed perfectly true and provided with a parallel movement, and is shifted by a lever at the feeding end of the machine. The guide can be instantly adjusted at any distance from the stationary saw, depending upon the amount of crook in the board being sawn, and when boards do not require straightening, the guide can be thrown in line with the stationary saw, thus cutting nothing from the board. The machine is furnished with an extra short guide, which can be quickly secured to the end of the long guide nearest the saws, and by throwing over the hinged, long, rear guide, the machine can thus be used for ripping boards and planks which require no straightening.

This machine is furnished with hardwood extension frames provided with iron idle rolls. The pedestal carrying the saw-shifting levers has a large, substantial base and is bolted firmly to the floor and well secured to the frame at the upper end. The device for shifting the saws is perfect in its adjustments, and means are provided for taking up lost motion due to wear.

The collars are made of cast steel together with steel nuts, which hold the saws in place and are fitted with tool steel "feathers" which slide in the keyways in the mandrel. These collars are cut through on one side and are provided with tangent bolts and set screws by which the collars can be adjusted to slide freely upon the mandrel and at the same time maintain the saws in perfect alignment. The saws can be instantly removed from the machine by withdrawing the movable bearing carrying the outer end of the mandrel. The saw shifters can be thrown upward to permit the saws to pass freely so that no wrenches or other appliances are necessary when changing saws. The feed rolls can be instantly raised and adjusted to any desired height by means of a treadle placed within easy reach of the operator. The hand lever which controls the board guide, as well as the lever which shifts the saws, is placed in a convenient position. A full set of wrenches is furnished with each machine.

Weight.	Floor Space.	Pulley on Mandrel.	Speed.	H. P.	Code Word.
24-in. 2,300 lbs.	5½ x 22 ft.	8 x 9 in.	2,600	8	PLANTER
30-in. 2,700 lbs.	6 x 22 ft.	8 x 9 in.	2,600	8	POLITE
36-in. 3,000 lbs.	6½ x 22 ft.	8 x 9 in.	2,600	10	POMMEL



(Front View.)

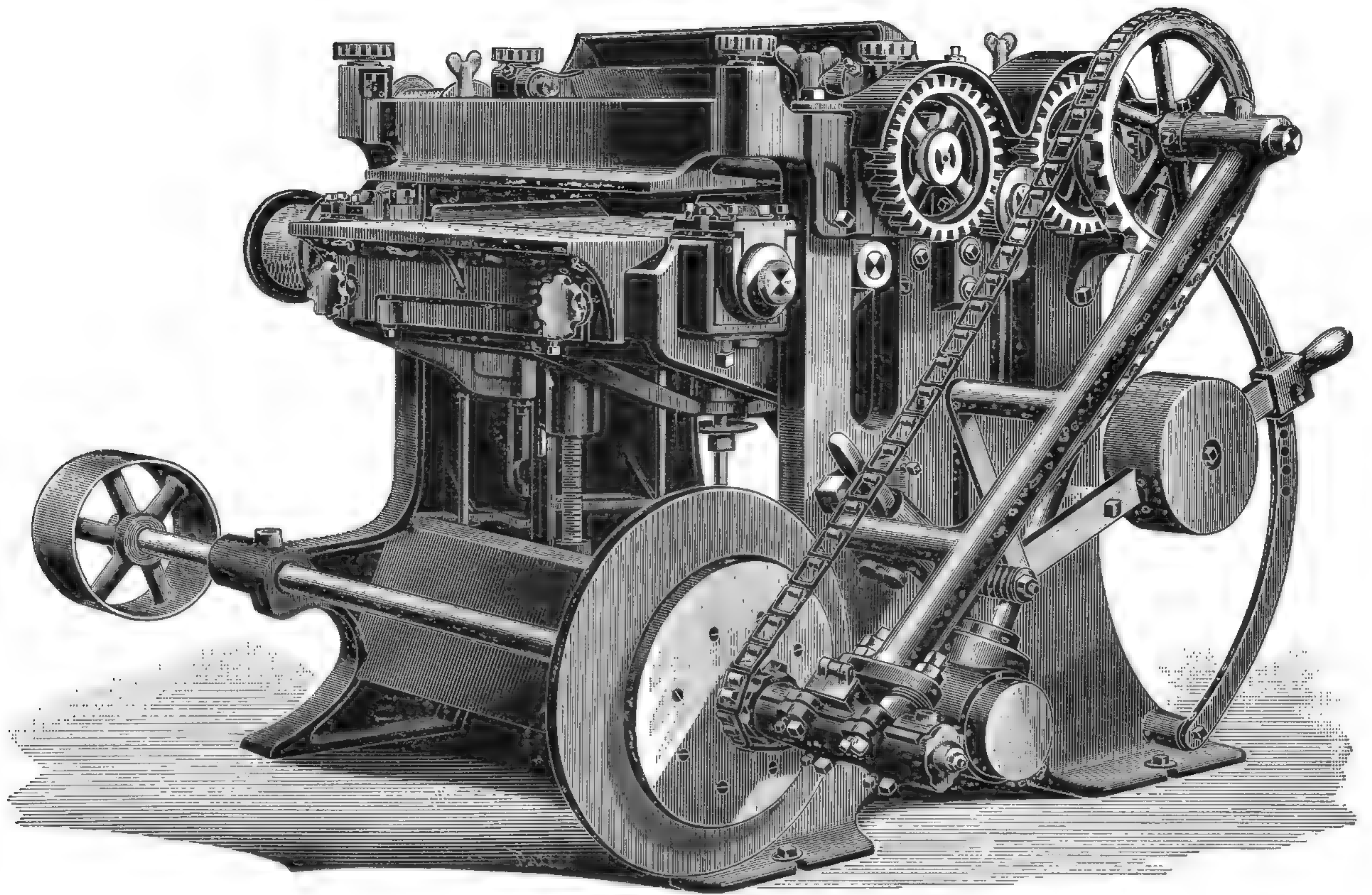
No. 46

Variable Feed Planer

This machine will plane from $\frac{1}{16}$ inch to 8 inches in thickness and up to 24 inches in width. Our Variable Feeding Device is applied to this machine so that the rate of feed can be instantly changed from 20 to 100 feet per minute by moving a lever, or if desired, the feed can be reversed and the material backed out of the machine.

The feeding rolls are of solid steel, with large bearings, and are powerfully geared. The cutter-heads are of hard crucible steel and have bearings 2 inches in diameter, and of ample length. The boxes are lined with genuine babbitt metal and are self-oiling and can be adjusted by set screws, so that no liners between caps and boxes are needed. The pressure bars are of improved construction and will hold short pieces firmly so that no end clipping can possibly occur.

For planing wet or icy lumber, the lower rolls can be quickly raised by means of a lever, thus carrying the material clear of the bed.



(Rear View.)

No. 46

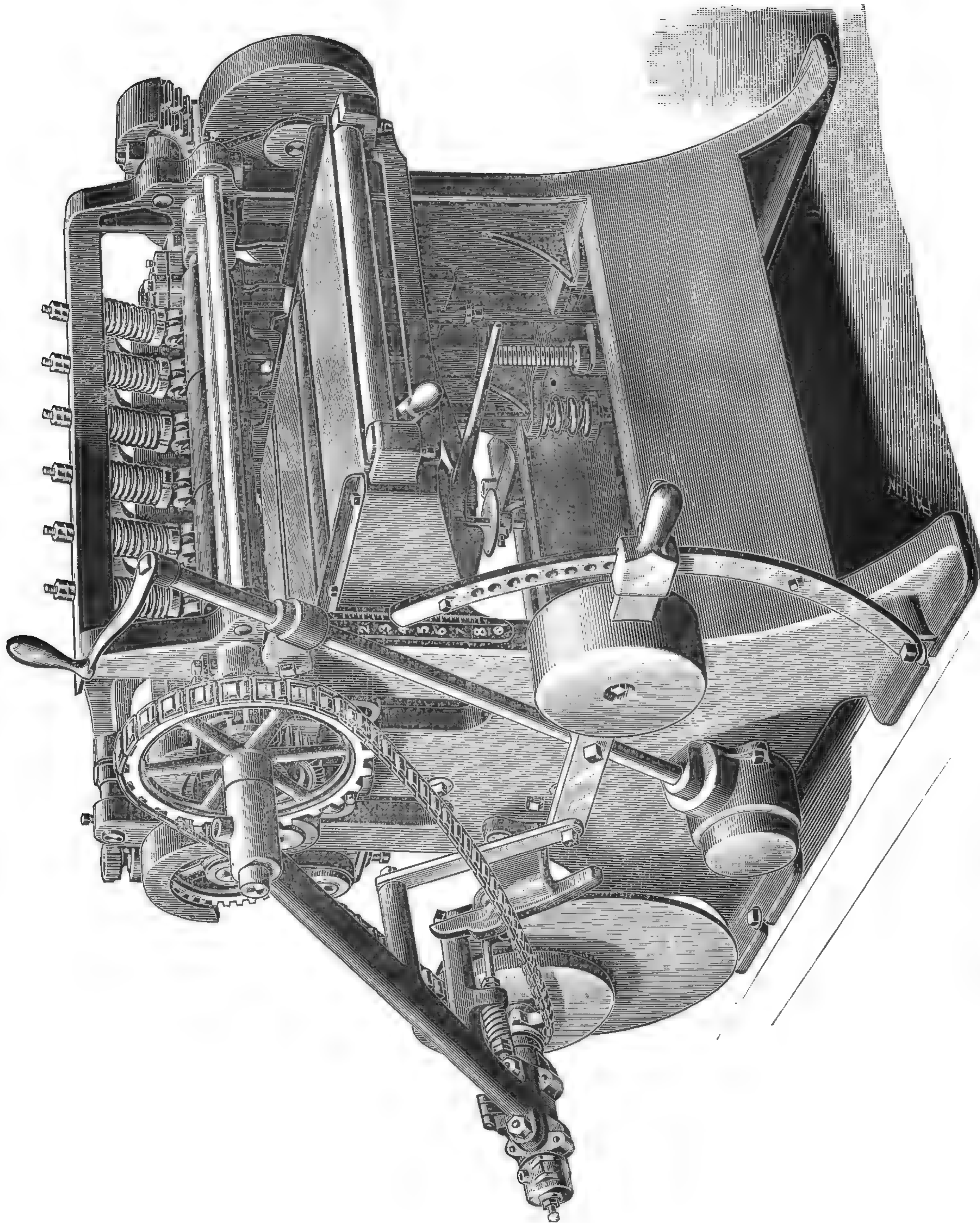
Variable Feed Planer

The bed, which is cast in one piece, is provided with a removable bed plate, and can be firmly clamped to the sides by powerful compound levers, operated by a hand lever projecting from the front end of the bed, thus doing away with the danger of the bed moving while in use.

The machine termed Single is for planing one side only; machine termed Double is for planing both sides.

Pulleys on cutter-heads are 5 inches in diameter, 6 inch face and should make 4,000 revolutions per minute.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
Single, 2,300 lbs.	4½ x 5½ ft.	12 x 6½ in.	850	8	IDEAL
Double, 2,800 lbs.	4½ x 5½ ft.	12 x 6½ in.	850	10	IGNORE



No. 46 1-2. Sectional Roll Variable Feed Planer

No. 46 1-2

Sectional Roll Variable Feed Planer

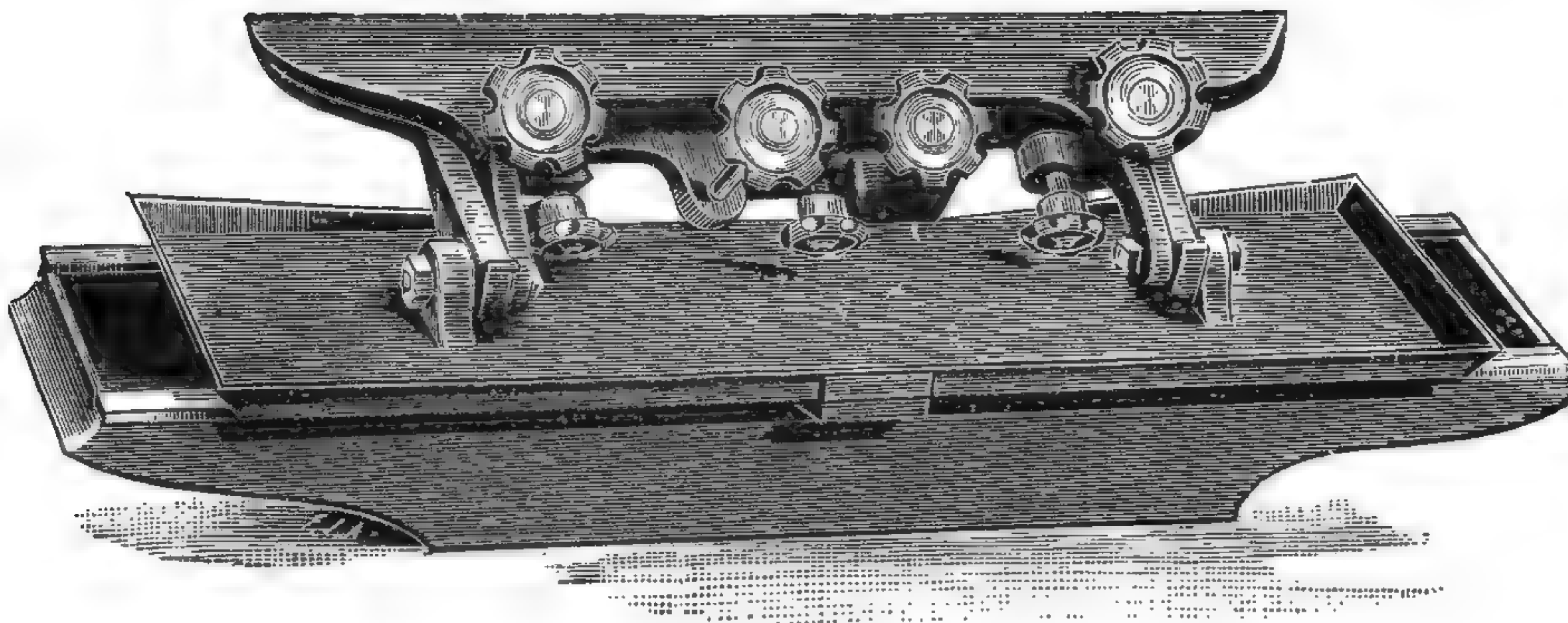
This machine is made to plane from $\frac{1}{16}$ inch to 8 inches in thickness, and up to 24 inches in width; the front roll is composed of six sections, each carried in an independent frame and driven from a back shaft by strong gears engaging directly in the faces of the rolls, and held down by separate springs arranged to give uniform pressure, regardless of the depth of cut. Machine is made either Single or Double; machine termed Single is for planing one side; machine termed Double is for planing both sides.

Our Variable Feed Device is applied to this planer, enabling the operator to change the rate of feed instantly by the simple movement of a lever to any feed from 20 to 100 feet per minute. The feed can also be reversed, and the material backed out of the machine if so desired.

The feeding rolls are of solid steel with large bearings and are powerfully geared. The cutter-heads are of hard crucible steel and have bearing 2 inches in diameter and of ample length.

Pulleys on cutter-heads are 5 inches diameter by 6 inch face and should make 4,000 revolutions per minute.

Weight	Floor Space	T. and L. Pulleys	Speed	H. P.	Code Word
Single, 2,300 lbs.	4½ x 5½ ft.	12 x 6½ in.	850	8	BLUX
Double, 2,800 lbs.	4½ x 5½ ft.	12 x 6½ in.	850	10	BOIAR

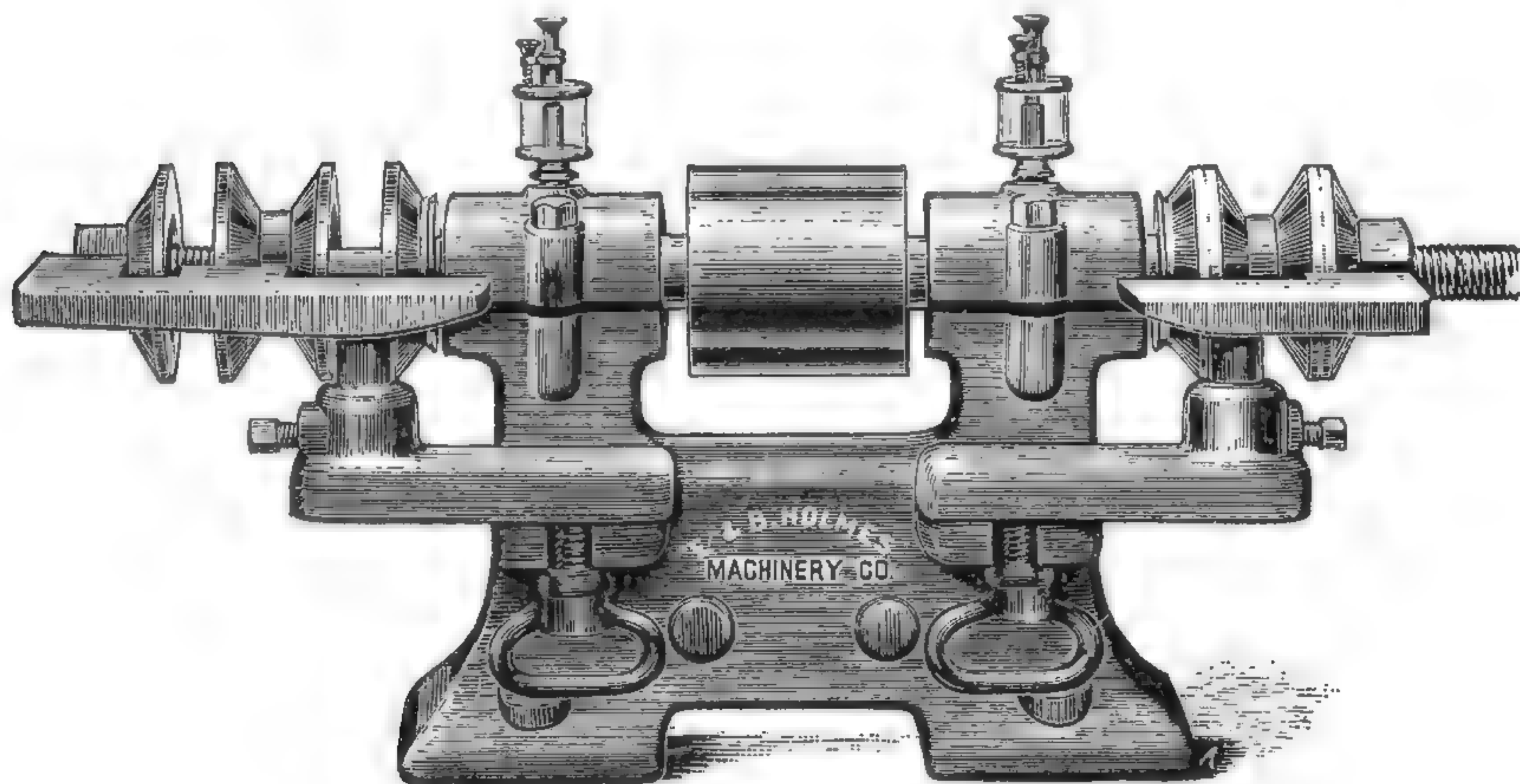


No. 55 1-4 Hand Feed Knife Grinder

This machine will grind knives up to 32 inches long. It consists of a heavy iron bed, arranged to be bolted to the grindstone frame. The carriage is fitted to the track on bed, and gibbed both front and back, and is constructed so as to allow the water to run back on the stone. To this bed are attached clamps for carrying the knives, which have an adjustment, allowing the knives to be ground on any desired bevel. It is also provided with a pressure screw to hold the knife down to the stone if desired, thus grinding the knives perfectly straight and true.

Weight.
125 lbs.

Code Word.
TACK

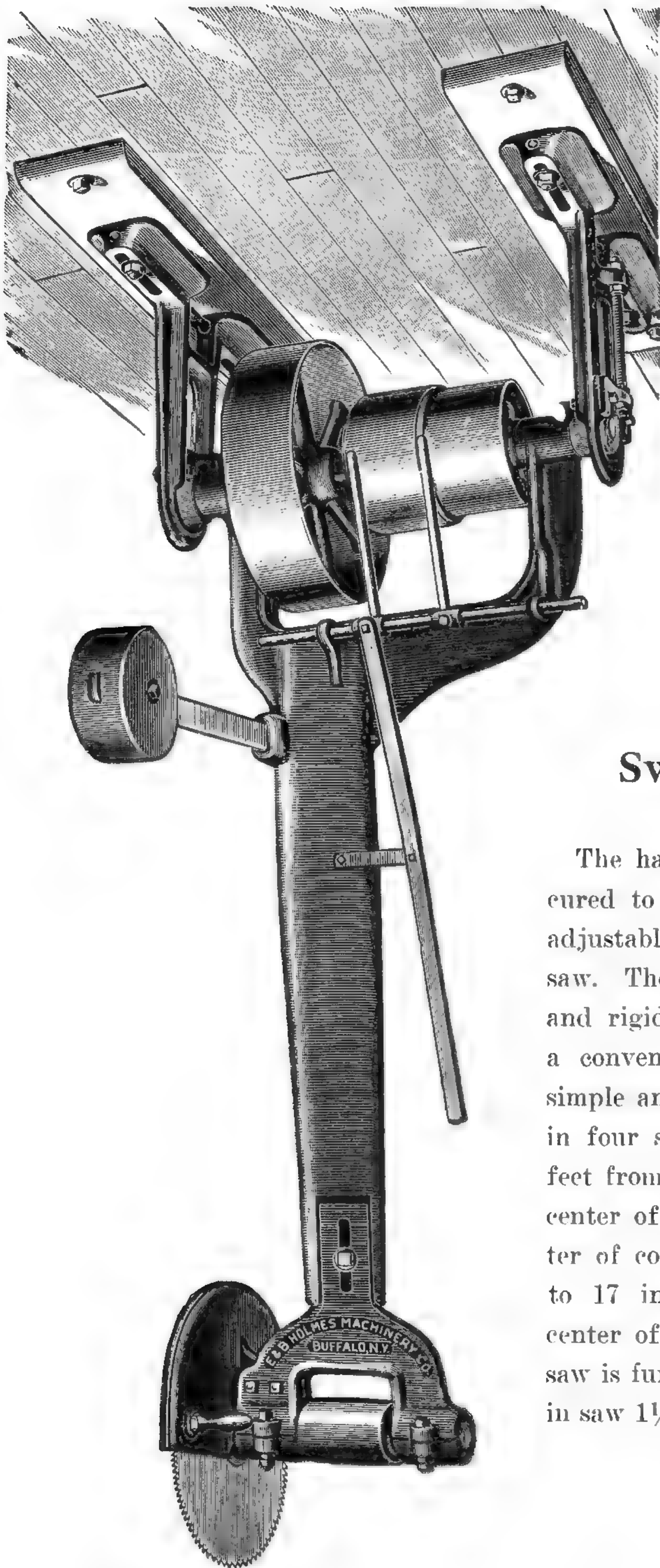


No. 55 1-2 Double End Emery Grinder

The arbor in this machine will carry either two or four wheels, 14 inches in diameter, 1 inch hole; the rests are planed perfectly level and are adjustable in every direction. The mandrel is $1\frac{7}{16}$ inch diameter, turned to 1 inch where the wheels go on.

Weight.	Floor Space.	Pulley on Mandrel.	H. P.
140 lbs.	27 x 7 in.	4 x 4 in.	1

	Code Word
2-wheel	TALLY
4-wheel	TAX

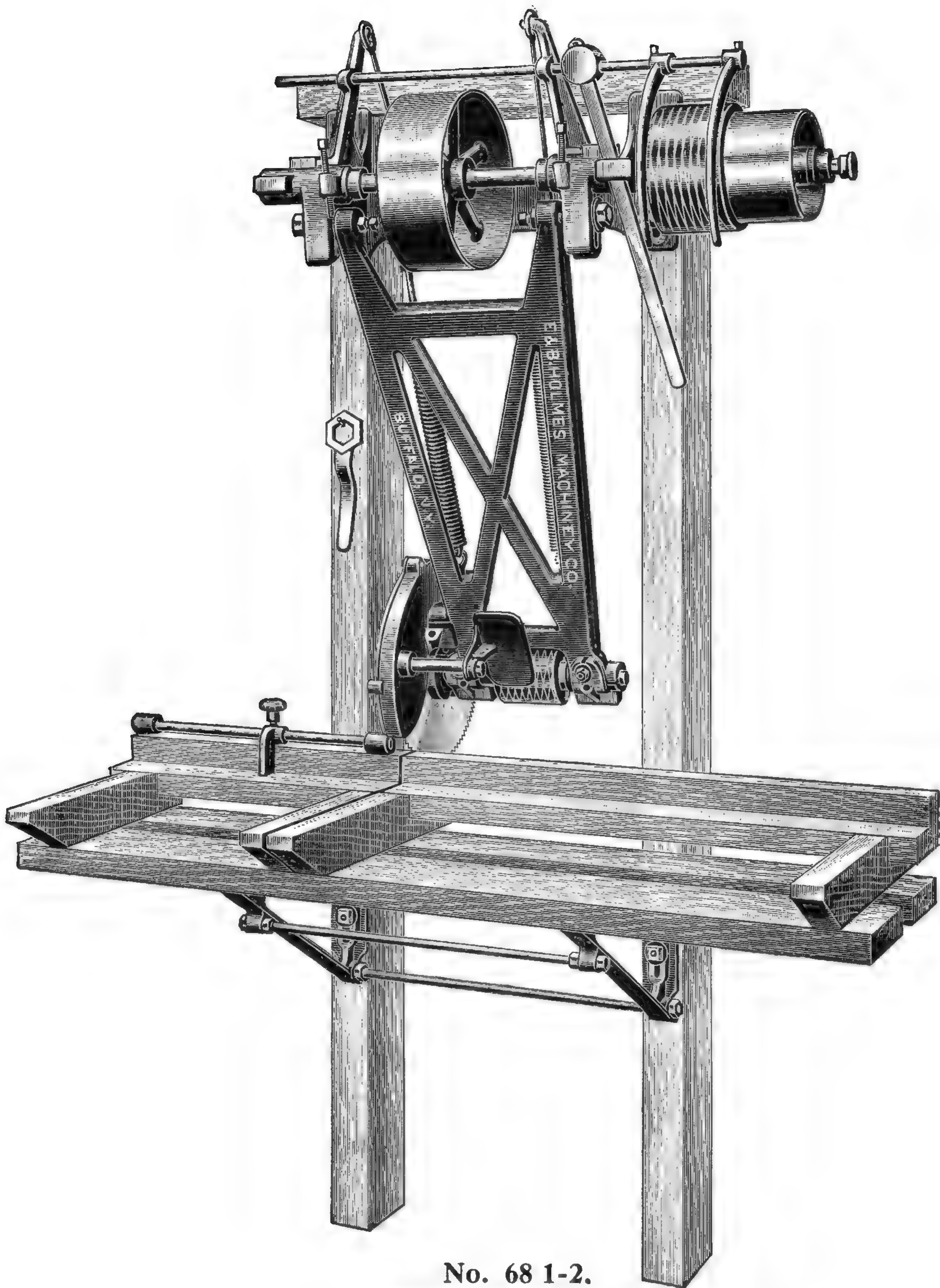


No. 68

Swing Cut-Off Saw

The hangers of this machine can be secured to the ceiling or to posts, and are adjustable to compensate for the wear of saw. The frame is cored and is both light and rigid. The saw guard is fitted with a convenient handle; the belt shifter is simple and efficient. The machine is built in four sizes, 5-feet, 6-feet, 7-feet and 8-feet from the center of the saw mandrel to center of countershaft; distance from center of countershaft to base of hangers 11 to 17 inches. Distance from center to center of hangers 32 inches. One 20-inch saw is furnished with machine; size of hole in saw $1\frac{1}{4}$ inch.

Weight.	T. and L. Pulleys.	Speed.	H. P.	Code Word.
5-ft. 600 lbs.	10 x $6\frac{1}{2}$ in.	600	2	PEACE
6-ft. 700 lbs.	10 x $6\frac{1}{2}$ in.	600	2	PROFIT
7-ft. 800 lbs.	10 x $6\frac{1}{2}$ in.	600	2	PRINCE
8-ft. 900 lbs.	10 x $6\frac{1}{2}$ in.	600	2	PUNCH



No. 68 1-2.
"Uptodate" Swing Cut-Off Saw
(Machine with Foot Lever, Page 44)

No. 68 1-2

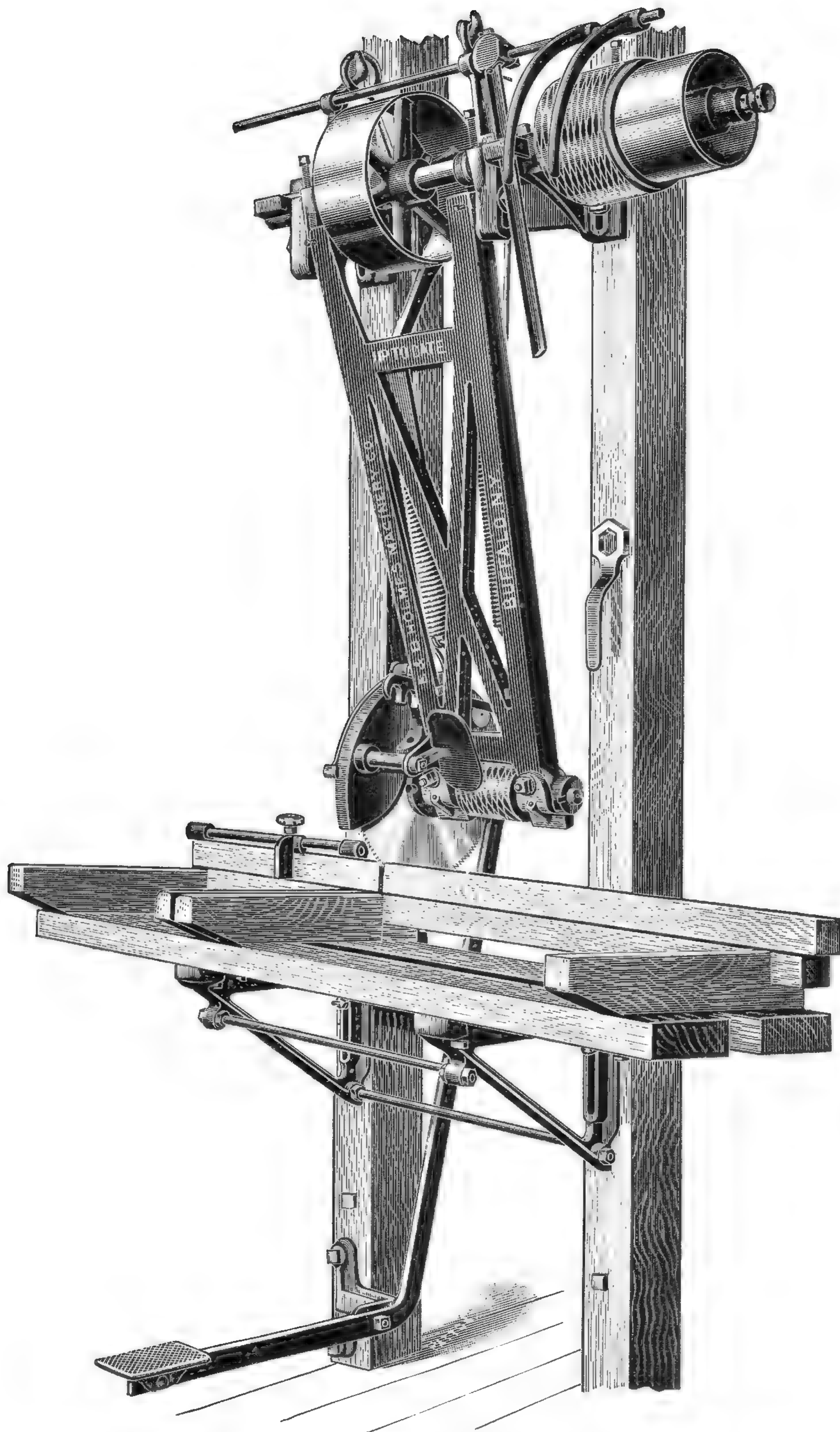
“Uptodate” Swing Cut-Off Saw

This machine is especially adapted for use in factories where rapid and accurate cutting is desired. The tight and loose pulleys, arbor and saw guard can be easily reversed, making the machine either right or left handed. The cut shows a left hand machine. Connected slotted brackets are provided to carry the table, which can be raised or lowered to suit the diameter of the saw or thickness of material being cut. The saw can be started and stopped instantly by a hand lever. The main frame of the machine is light and rigid and is hung from a slotted connected yoke, entirely independent of the countershaft, and in such relation to it as to tighten the belt when the saw enters the cut; the frame being vertically adjustable, the belt can be kept in proper tension at all times. The compensating springs counterbalance the frame at all points equally and return it to its normal position. The saw is protected by a shield provided with a suitable handle and belt guard. The arbor which runs in self-oiling bearings is fitted with our diamond-faced pulley, which prevents air-cushioning and greatly increases the driving power of the belt.

This machine has 40-inch swing, is furnished with one 14-inch saw, locking pin and wrench, also one adjustable stop gauge to cut five feet in length; where it is necessary to cut several different lengths, the improved mounted swing stops are provided, at an additional cost. Six bolts are furnished to secure the slotted yoke and table bracket to the 4-inch by 6-inch upright timbers, which should be placed 20 inches apart. (The wooden frame shown is not furnished with the machine.)

Diameter of saw is 14 inches; size of hole in saw 1 inch; lug pin $\frac{3}{8}$ inch diameter on $2\frac{1}{2}$ inch circle.

Weight.	T. and L. Pulleys.	Speed.	H. P.	Code Word.
360 lbs.	8 x $5\frac{1}{2}$ in.	1,050	2	“PURVEY”



No. 68 1-2. "Uptodate" Swing Cut-Off Saw
(With Foot Lever.)

No. 68 1-2

“Up to Date” Swing Cut-Off Saw

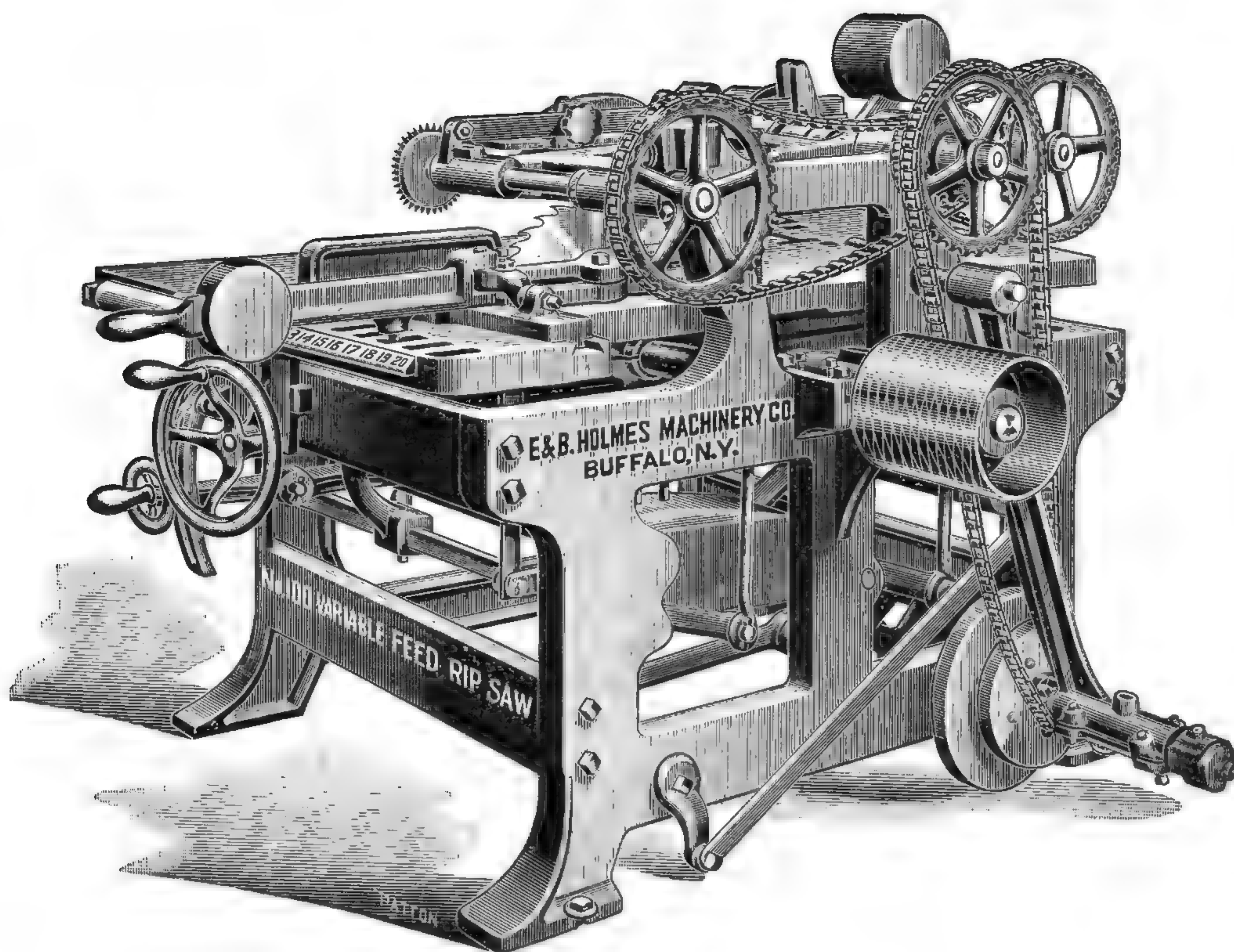
(With Foot Lever.)

This machine is the same as shown on page 42, but has the additional advantage of the Foot Lever, which greatly increases the capacity of the machine, as both hands of the operator are free to handle material. The Foot Lever can be attached to any “Uptodate” machine now in use, and is instantly adjusted to suit the width of stock being cut, thus reducing the movement of the foot lever while cutting narrow stock. When desired, it can be quickly detached and the machine operated by hand. These machines are also built with direct motor drive and can be furnished with or without motor. The main yoke is planed on top to receive motors of 2 or 3 horse power, any standard type.

(The wooden frame shown is not furnished with machine.)

Diameter of saw is 14 inches; size of hole in saw 1 inch; lug pin $\frac{3}{8}$ inch diameter on $2\frac{1}{2}$ inch circle.

Weight.	T. and L. Pulleys.	Speed.	H. P.	Code Word.
400 lbs.	8 x $5\frac{1}{2}$ in.	1,050	2	“QUAD”

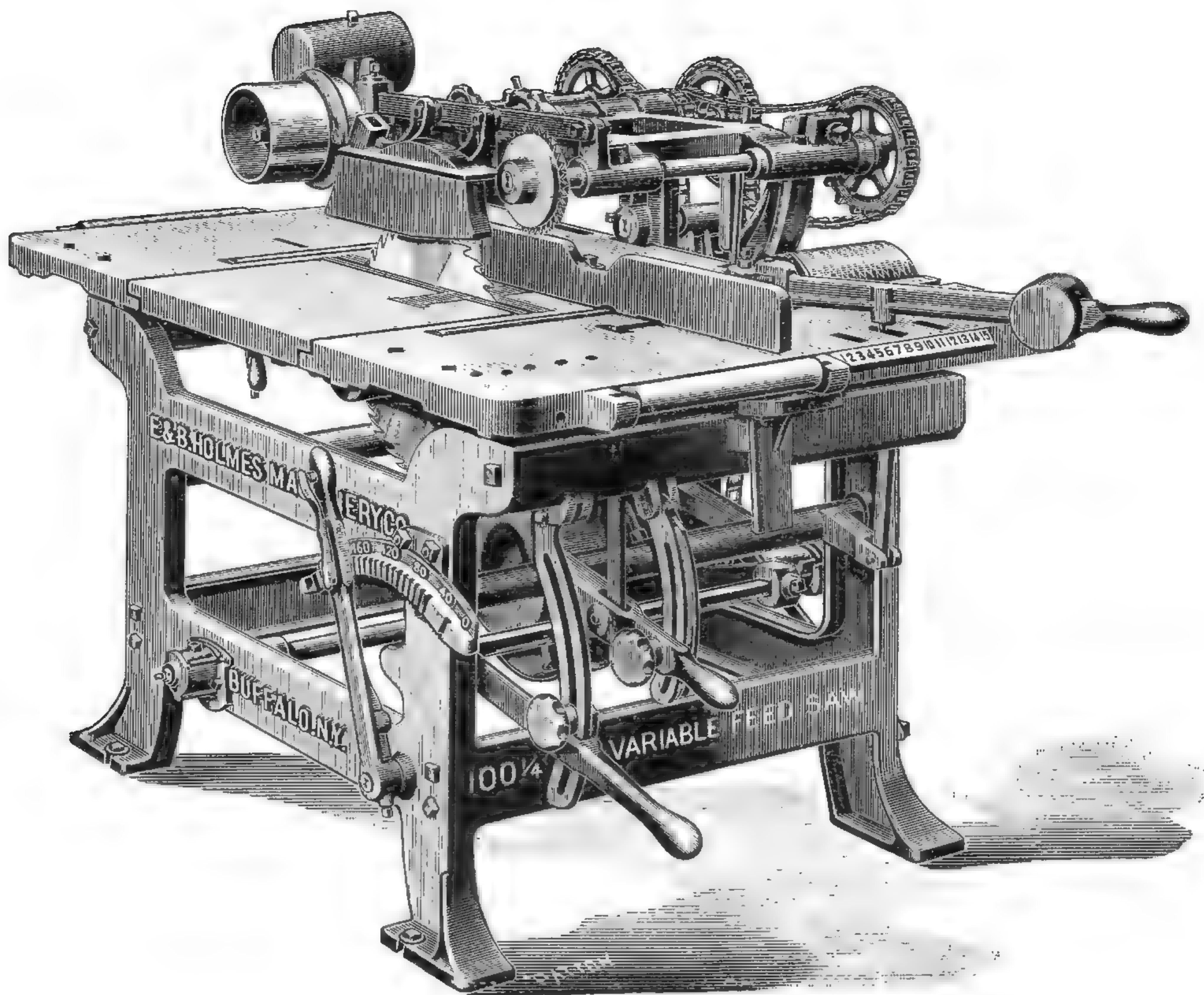


No. 100

Variable Feed Rip Sawing Machine

This machine is regularly furnished with a 20-inch saw which will cut $6\frac{1}{2}$ inches in thickness by 20 inches in width; if desired a 24-inch diameter saw can be used which will cut $8\frac{1}{2}$ inches thick. It is fitted with our Variable Feed by which the rate of feed can be instantly changed from nothing up to 200 feet per minute, or reversed by moving a lever. The heavy extension mandrel is provided with multiple collars, permitting a number of saws to be placed at any desired distance from each other up to 6 inches, or a Cutter-head can be used by which jointing, rabbetting or gaining can be rapidly done. The bearings are self-oiling and the outer one extends to the center of the pulley, thus avoiding all overhang and heating. With the addition of a Siding attachment, the machine can be converted into a Siding or Resawing machine; we furnish the Siding attachment, when desired, for which we make an extra charge.

Weight	Floor Space	Pulley on Mandrel	Speed	H P.	Code Word
2,200 lbs.	4 ft. 10 in. x $6\frac{1}{2}$ ft.	8x9 in.	2,000	6	RELENT

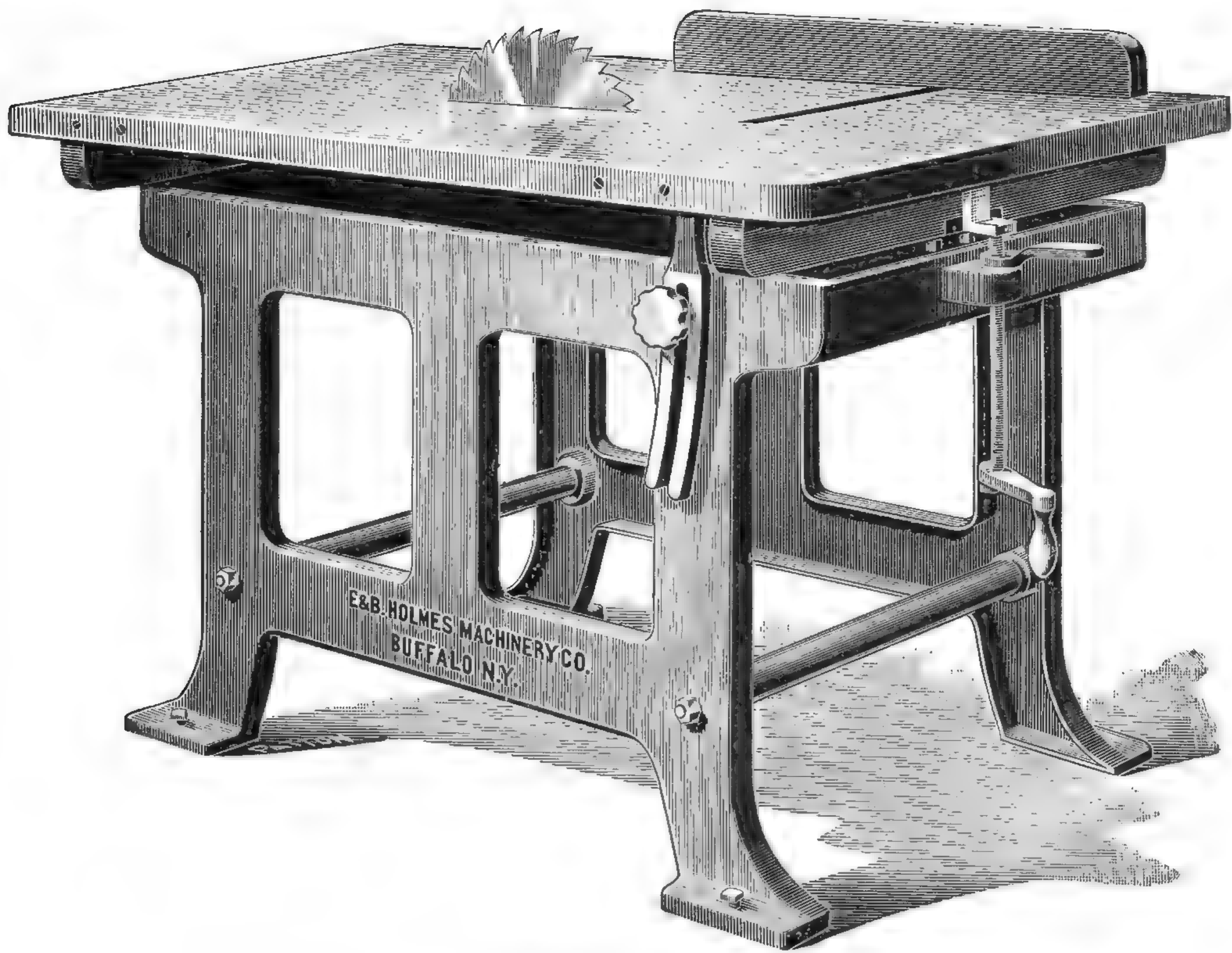


No. 100 1-4

Variable Feed Rip Sawing Machine

This machine is regularly furnished with a 16-inch diameter saw, and will cut $4\frac{1}{2}$ inches x $16\frac{1}{2}$ inches; if desired a 20-inch diameter saw can be used, which will cut $6\frac{1}{2}$ inches thick. The machine is fitted with our Variable Feed, by which the rate of feed can be instantly changed from nothing to 200 feet per minute, or reversed by moving a lever. The extension mandrel is provided with multiple collars, permitting a number of saws to be placed at any desired distance from each other, up to 5 inches, or a cutter-head can be used, by which jointing, rabbetting or gaining can be rapidly done. The bearings are self-oiling, and the outer one extends to the center of the pulley, thus avoiding all overhang and heating. The Siding attachment same as furnished with the No. 100 machine can be furnished with this machine, for which we make an extra charge.

Weight.	Floor Space.	Pulley on Mandrel.	Speed.	H. P.	Code Word
1,600 lbs.	4 ft. 5 in. x 5 ft. 10 in.	7 x $7\frac{1}{2}$ in.	2,500	5	RELISH



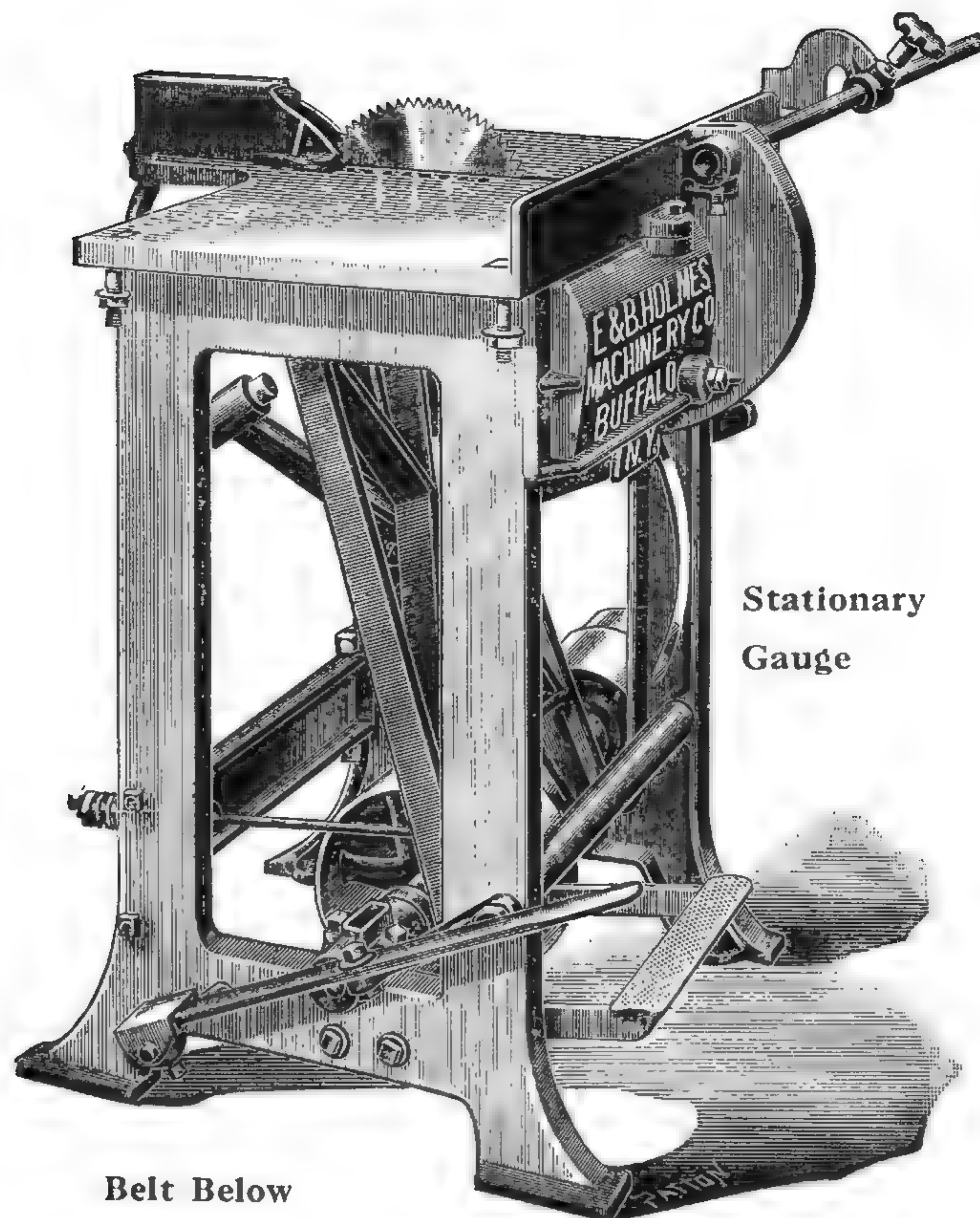
(Showing Table Down)

No. 101

Iron Frame Wood Top Rip Saw

This machine is regularly furnished with one 16-inch saw and will cut up to 22 inches in width; a 20-inch saw can be used with the machine, and if desired, an adjustable cut-off gauge and saw can be fitted to the machine, for which we make an extra charge. Special attention is called to the construction of the yoke, which is in one piece, the portion between the bearings serving as an oil chamber for both bearings, and being covered by a continuous cap, all dirt is excluded and the oil retained until used. Strips of felt are placed in the oil grooves connecting the oil chamber with the bearings, thus keeping them continuously oiled. The space between the box and cap is packed with strips of felt and a set screw adjustment is provided so that the caps can be instantly adjusted to a running fit. Oil is supplied at the center oil hole. The stationary saw collar is recessed to receive a locking hook, which holds the arbor from turning while removing and replacing the saw. The arbor is of special steel $1\frac{1}{2}$ inches diameter and is turned $1\frac{1}{8}$ inches in diameter where the saw goes on. The table is 3 ft. x $4\frac{1}{2}$ ft. and is made of kiln-dried rock maple, glued up in strips and firmly cleated so that it will remain perfectly true at all times. It is hinged at the back and is raised by a screw in front and held by heavy segments clamped to the sides. The gauge moves in a dovetailed way let into the table and is adjustable to any width.

Weight	Floor Space.	Pulley.	Speed.	H. P.	Code Word
450 lbs.	3 ft. x $4\frac{1}{2}$ ft.	5 x $5\frac{1}{2}$ in.	3,000	4	DONOR



No. 102

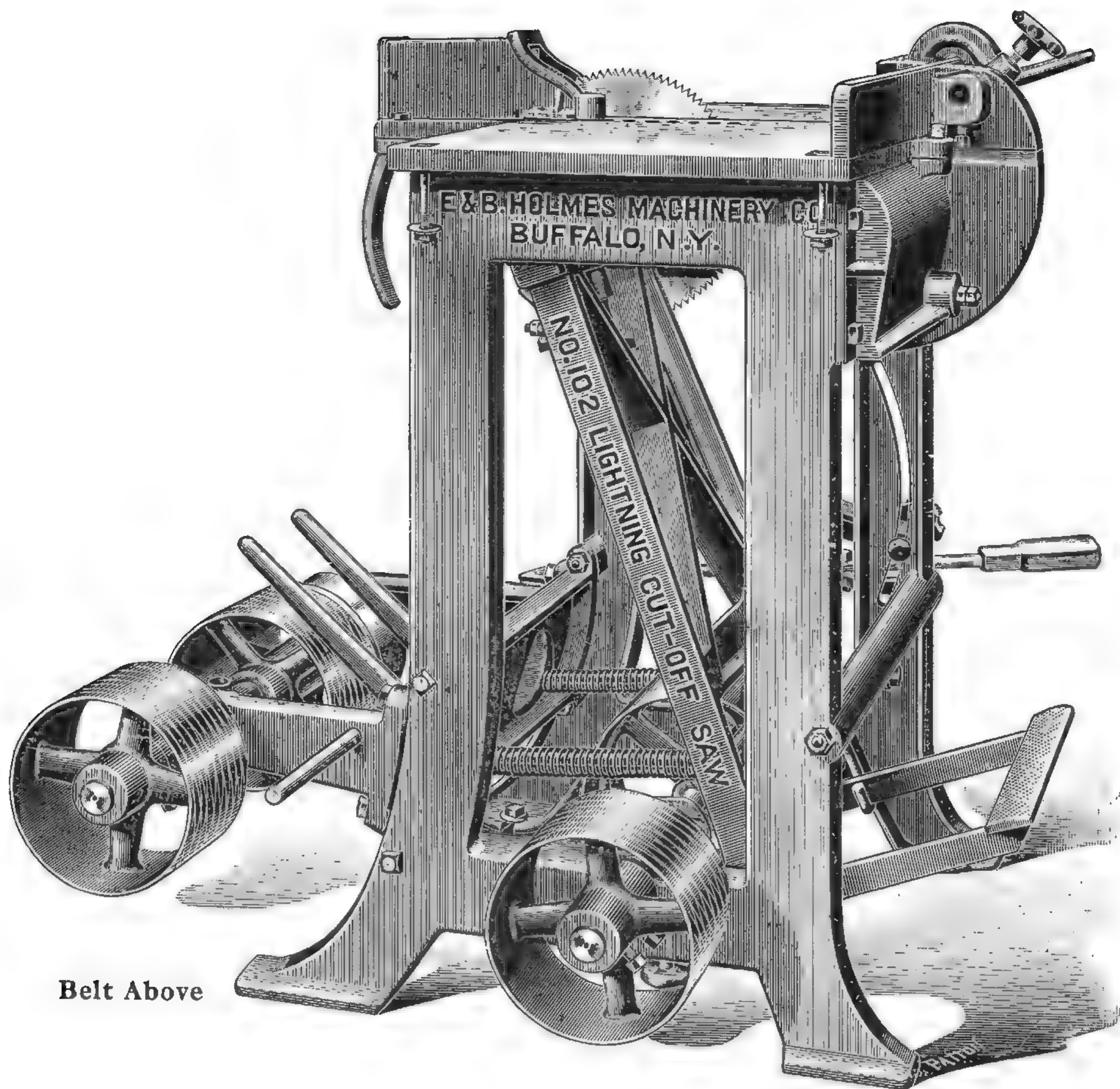
Lightning Cut-Off Saw

This machine is fitted with a 12-inch saw, and will cut material 1 inch thick up to 18 inches wide, and is entirely self-contained. The travel of the saw can be instantly shortened when cutting narrow lumber and the adjustable saw guard insures safety to the operator. Bolts are provided for bolting wooden tables on either side of the machine. The reversible stop gauge can be used either right or left handed, and when desired, additional stop gauges can be furnished so that various lengths can be cut from the same board, for which we make an extra charge.

The cut shown herewith illustrates the machine belted from below, with stationary gauge, for square cutting only.

Other styles of this machine shown on pages 50 and 51.

Weight..	Floor Space.	T. and L. Pulleys.	Speed.	H. P.	Code Word
500 lbs.	37 in. x 40 in.	8 x 4½ in.	1.050	2	DORIC

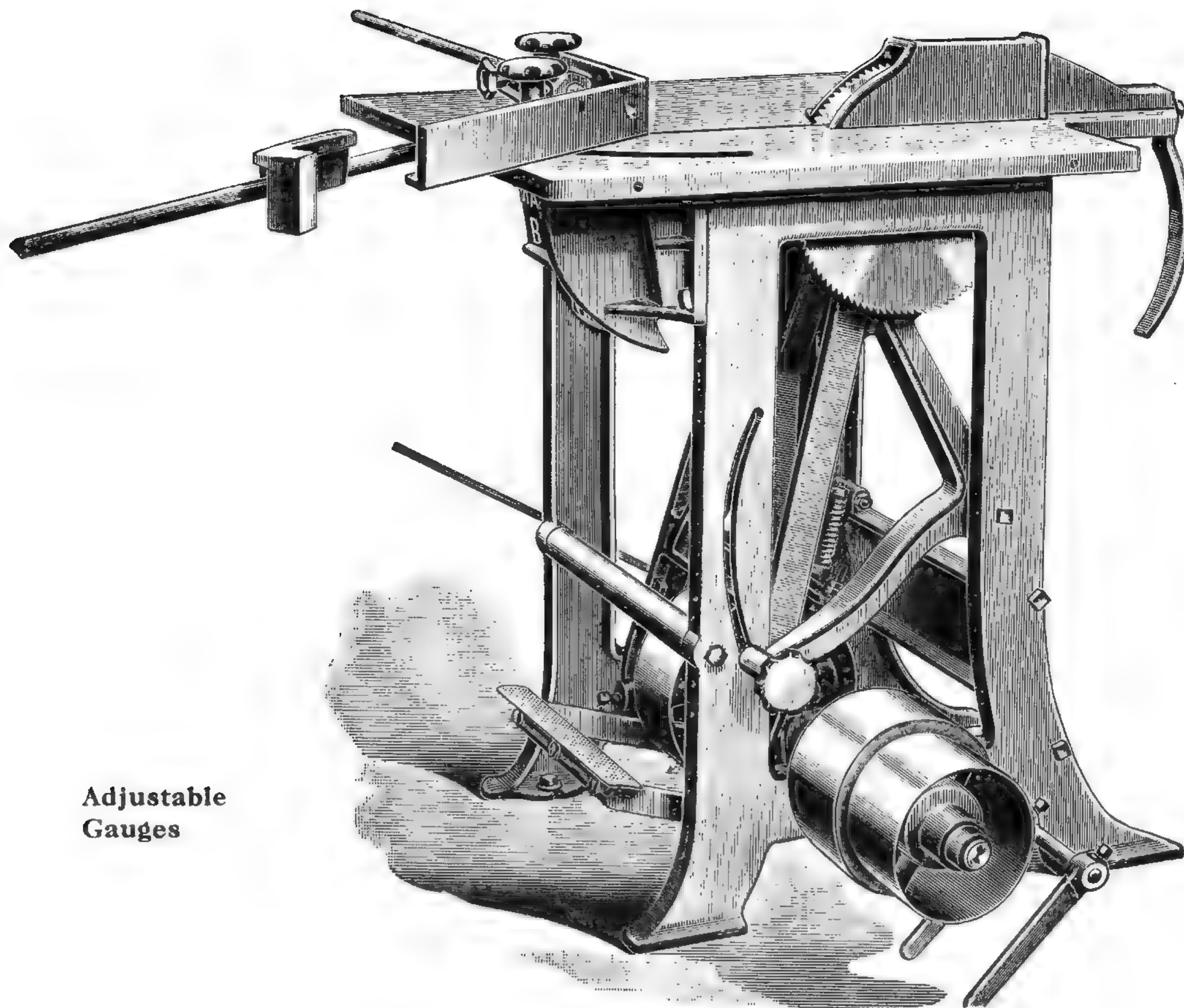


No. 102
Lightning Cut - Off Saw

The machine shown herewith will do the same work as the machine shown on page 49, but built with a small countershaft, as shown, so that it can be belted from above. The cut shows the machine fitted with stationary gauge for square cutting only.

Other styles of this machine shown on pages 49 and 51.

Weight.	Floor Space.	T. and L. Pulleys.	Speed.	H. P.	Code Word.
550 lbs.	3 ft. x 3½ ft.	8 x 4½ in.	1,050	2	DORADO



Adjustable
Gauges

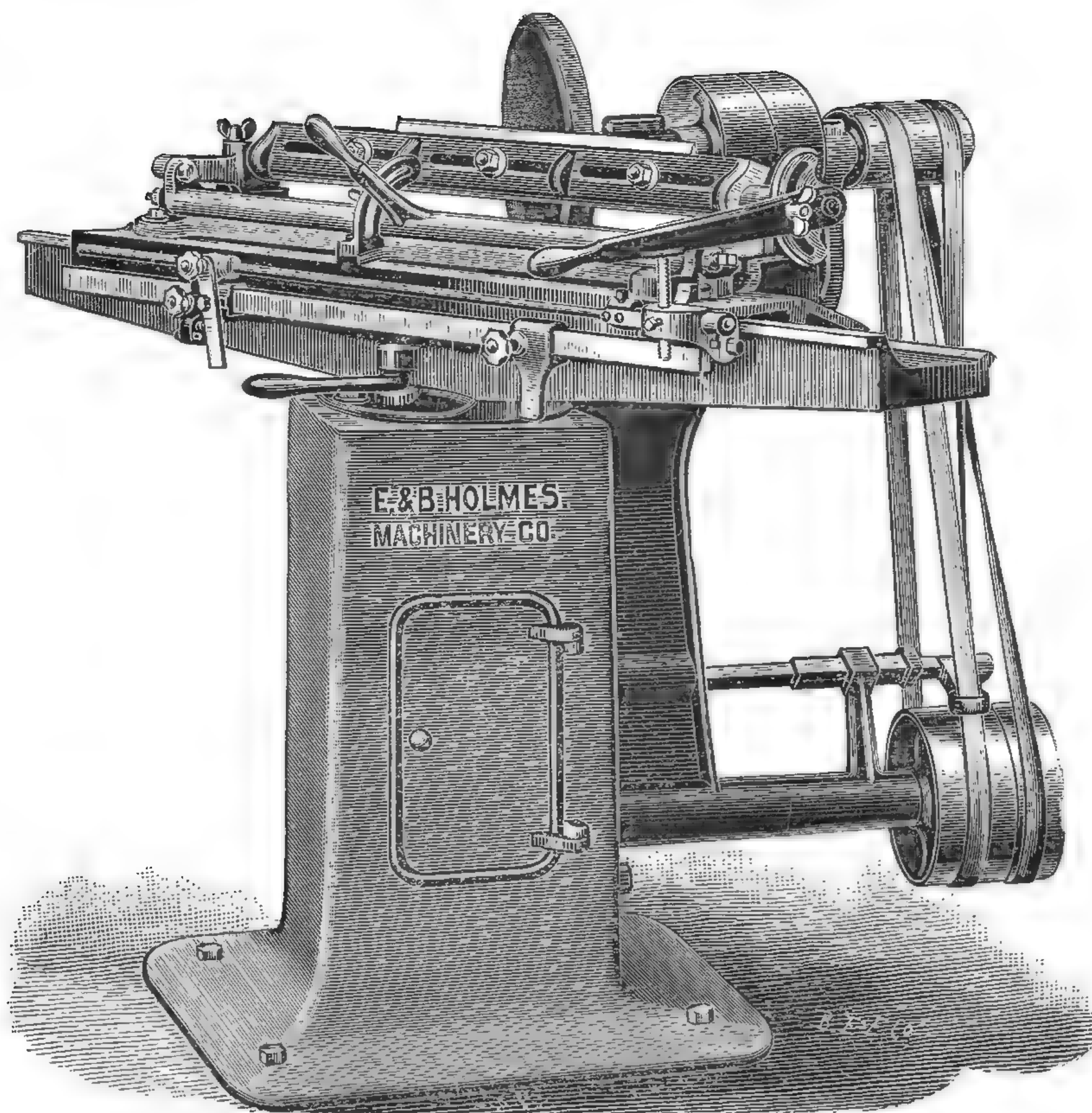
No. 102

Lightning Cut - Off Saw

The adjustable Gauges applied to this machine enable the operator to not only do square cutting, but to cut various angles up to 45 degrees. The cut shows the machine to belt from below, for both square and mitre cutting, but the same machine can be furnished to belt above.

Other styles of this machine shown on pages 49 and 50.

Weight..	Floor Space.	T. and L. Pulleys.	Speed.	H. P.	Code Word
500 lbs.	37 in. x 40 in.	8 x 4½ in.	1,050	2	Belt below, DOUAY
550 lbs.	37 in. x 40 in.	8 x 4½ in.	1,050	2	Belt above, DOTAL



No. 103 Automatic Knife Grinder

We build this machine in the following sizes, 32-inch, 44-inch, 64-inch, 76-inch, 88-inch and 100-inch. It is entirely automatic, having both lengthwise and crosswise feed, and being provided with a feed stop, by means of which the machine will stop grinding at the instant the knife has been brought to an edge, thereby avoiding loss from excessive grinding. The knives are ground from the edge downward, thus keeping the edge cool, without the use of water; if desired we furnish the machine to grind with water, for which we make an extra charge.

The loose pulleys are self-oiling, and all bearings are dust-proof.

We also build the machine to grind knives of curved or irregular formed edges, this being accomplished by the use of forms or patterns, which can be easily and quickly made and applied to the machine, causing the knives to be ground to the desired shape, and exactly alike at all times. On receiving a paper pattern of the cutters to be ground with the angle of the bevel marked thereon, we will furnish the necessary forms.

Weight.	Floor Space.	Cubic Contents.	H. P.
32 inch, 800 lbs.	3 ft. x 6 ft.	100 cu. ft.	2
Code Word.	Code Word.	Code Word.	
32 inch, "Sale."	54 inch, "Shell"	88 inch, "Skill."	
44 inch, "Search."	64 inch, "Shot."	100 inch, "Smoke."	
	76 inch, "Side."		
32 inch, for Straight and Curved Edges, "Snug."			



No. 105

Knife Balancing Scales

In order to have machinery run smoothly, the knives must be accurately balanced, and a scale such as shown herewith is therefore indispensable to every factory. By the use of this scale, the position, as well as the amount of excess weight can be ascertained; the scale is constructed with a view to detect any excess of weight endwise of the knives.

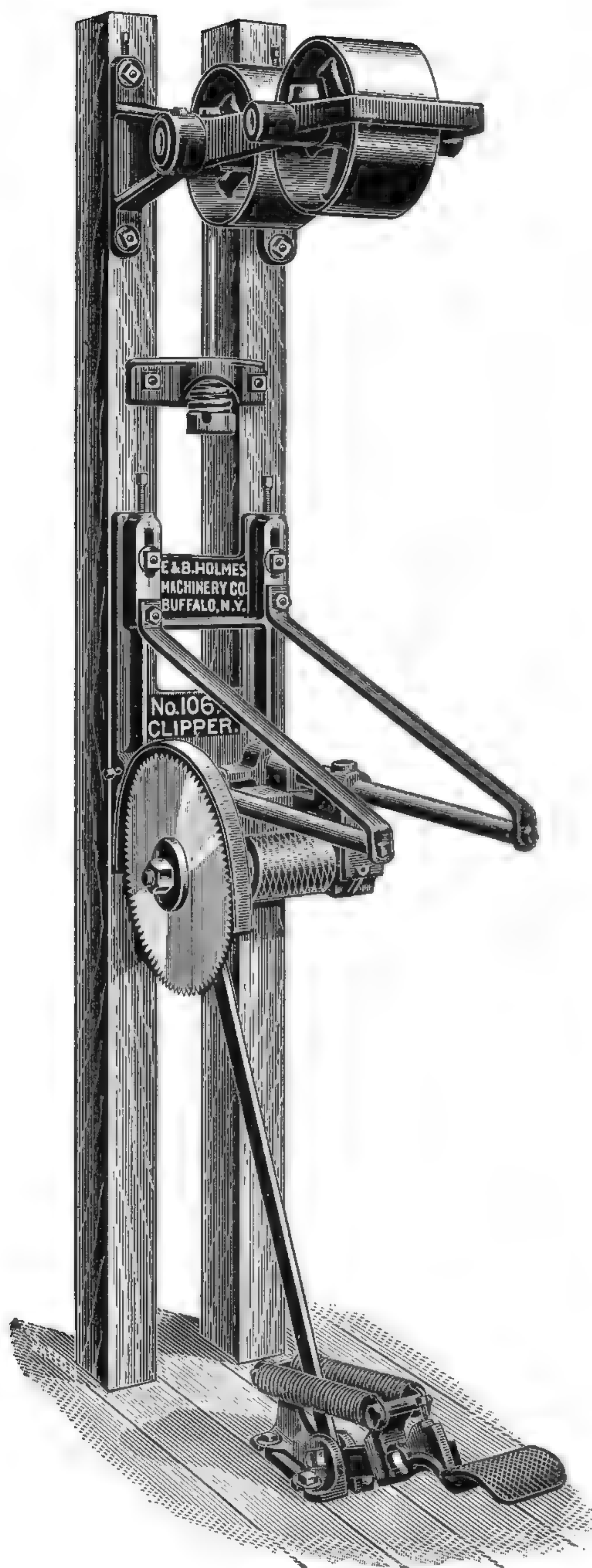
The large weight is moved along the bar until the scale is nearly balanced, then the small weight, which moves on a screw, is used to secure more perfectly the fine adjustment so necessary in balancing knives.

Weight.	Space Required.	Code Word.
50 lbs.	2 ft. x 1 ft.	"RELY"



Planer Knife

In ordering knives, always send sketch or pattern of what is required.



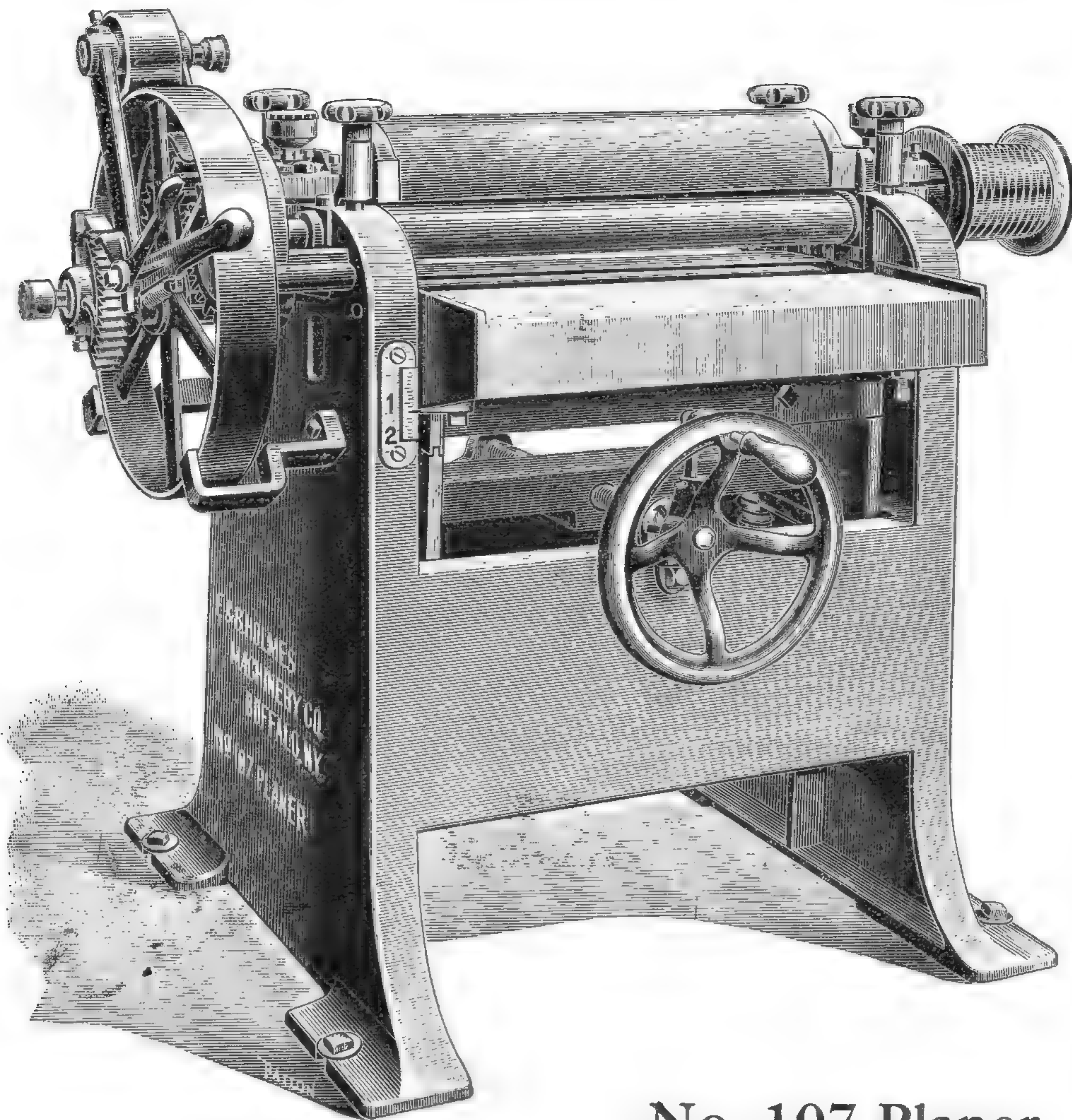
No. 106

“ Clipper ” Cut - Off Saw

This machine is fitted with one 16-inch saw, and will trim the ends of maple flooring, up to 5 inches in width. (The saw carriage is brought forward by an equalized extension spring on the foot lever.) The saw is completely covered, thus making it safe to operate. The slotted frame carrying the braced slide rods can be bolted either to posts or to the wall and is vertically adjustable.

The automatic belt binder is placed directly above the saw arbor on adjustable post hangers and the belt passing over both pulleys is kept uniformly tight at all times. If desired, T. and L. Pulleys can be furnished instead of the automatic binder.

Weight.	Floor Space.	Arbor Pulley.	Speed.	H. P.	Code Word.
350 lbs.	1½ x 3 ft.	4 x 5 in.	2,500	2	RADIX



No. 107 Planer

This machine will plane material on one side, from $\frac{1}{16}$ inch to 2 inches in thickness and up to 24 inches in width. It is a strong and compact machine, of new design and will plane heading and box material faster than any other planer now made.

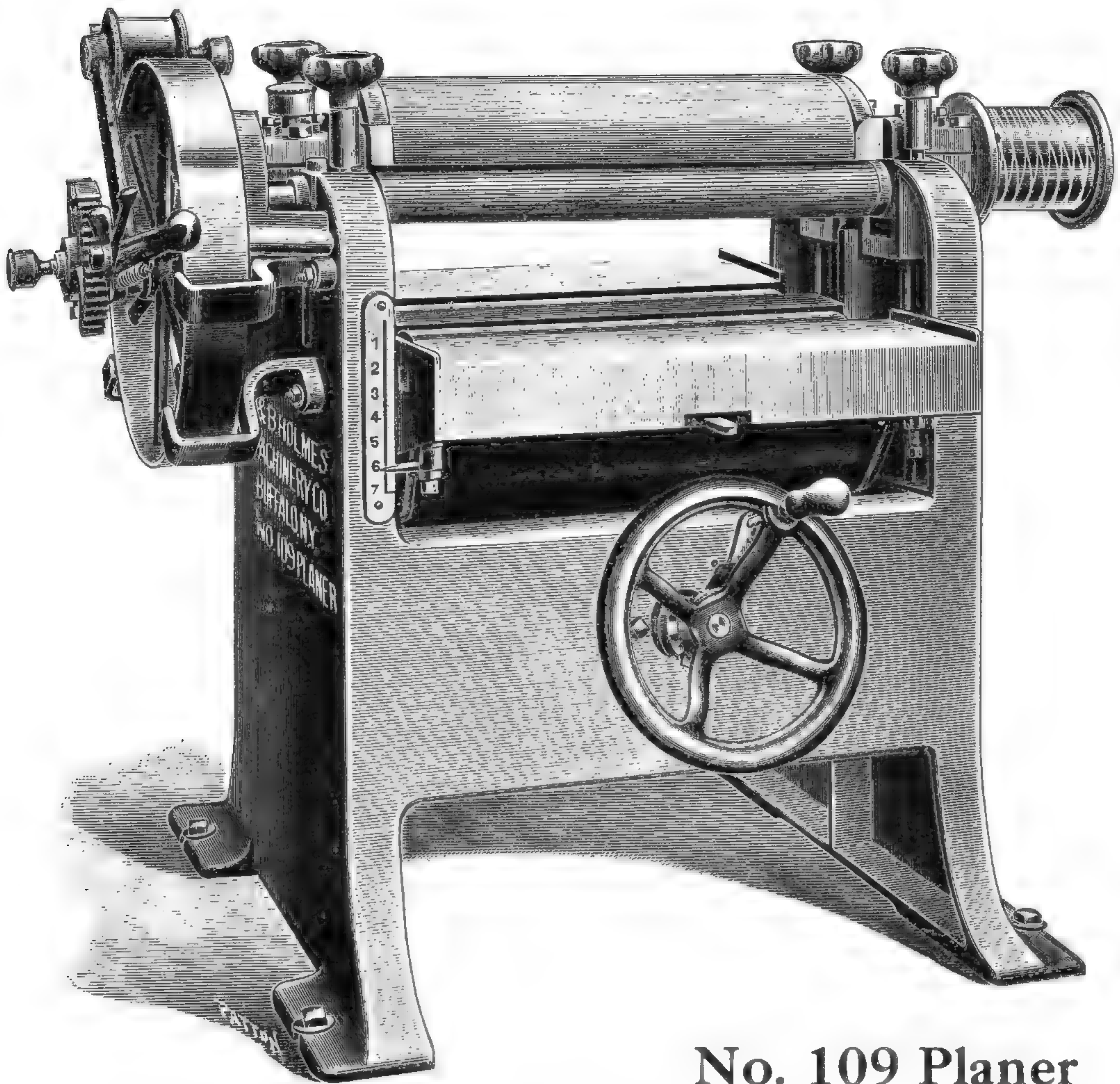
The cutterhead is made of solid forged steel with long bearings of large diameter and carries two knives cutting on a circle four inches in diameter.

The feed rolls are set very close to the cutterhead and arranged to hold warped heading down firmly to the bed. The front roll is finely fluted and case hardened, thus insuring strong feeding and great durability. The rolls in the bed are large and run on dust-proof roller bearings. The bed is raised and lowered on long inclines operated by a screw and self-locking handwheel.

The front and rear tables are hinged to the main bed and can be instantly adjusted to suit the thickness of material being planed, thereby avoiding all clipping at the ends. The feed is strong, being driven directly from a cone pulley on the countershaft, and is stopped and started by a tightener on the feed belt. There are three rates of feed, 25, 50 and 70 feet per minute.

The pulley on the cutterhead is 5 inches in diameter by 5 inch face and should run 4,000 revolutions per minute. The countershaft has tight and loose pulleys 10" x 5" and should make 850 revolutions per minute.

Weight	Floor Space	Cubic contents		Code Word
1,300 lbs.	3 ft. x 4 $\frac{1}{2}$ ft.	54 cu. ft.	With regular knives	"RAMUS"
			With thin high-speed knives	"RANDAN"



No. 109 Planer

This machine will plane material on one side from $\frac{1}{16}$ inch to 6 inches in thickness and up to 24 inches in width. It is a strong and compact machine of new design and will plane smoother and faster than any other planer of its size now made.

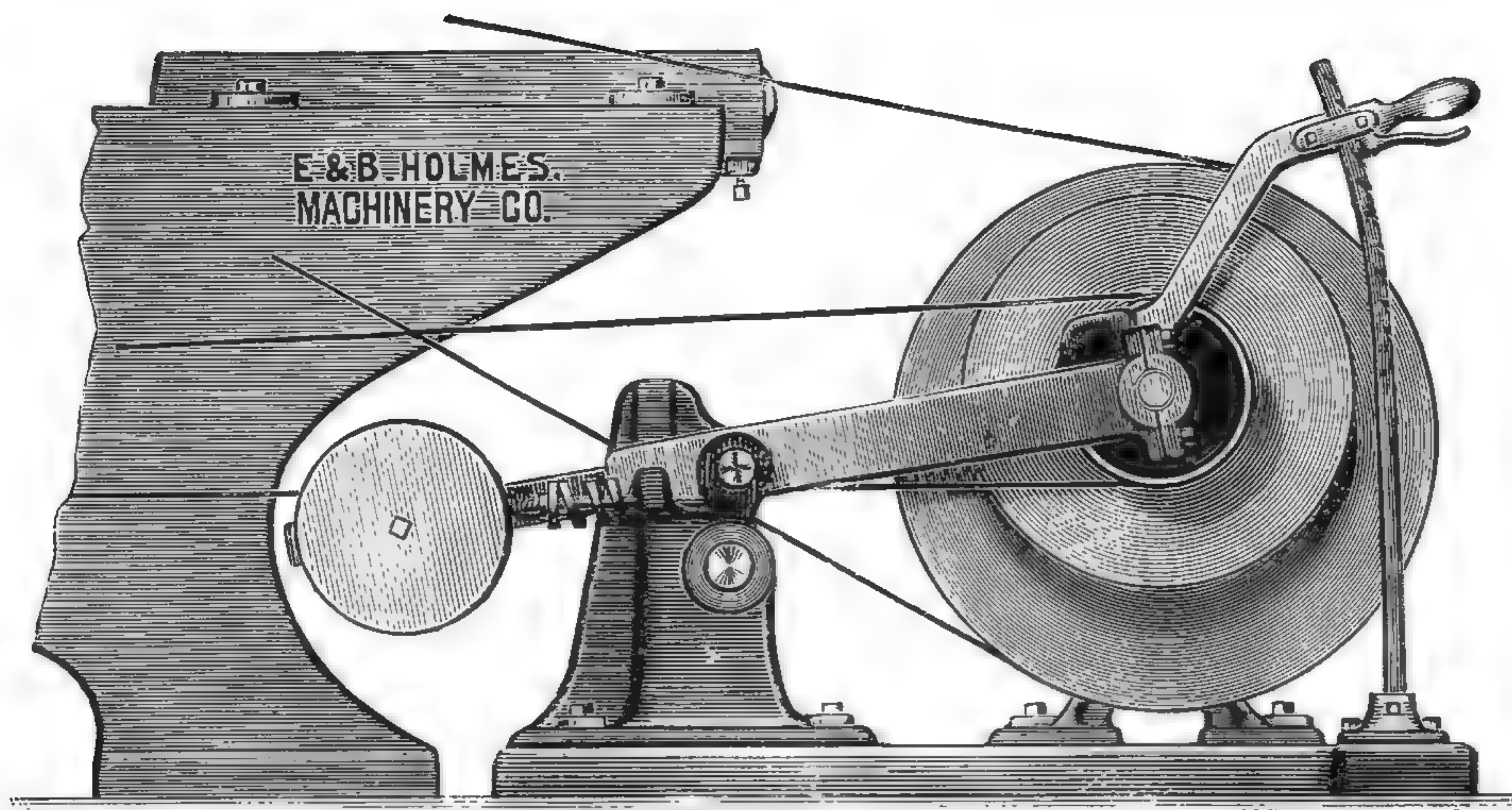
The cutterhead is a solid steel forging with long bearings of large diameter and carries two knives cutting on a circle four inches in diameter. We can also furnish the machine with thin hard knives and caps and jointing attachment, at an additional cost.

The feed rolls are set very close to the cutterhead and are arranged to hold the material being planed, firmly to the bed and avoid all clipping at the ends. The front roll is finely fluted and hardened insuring strong feeding and great durability. The rolls in the bed are large and run in dust proof roller bearings. The bed is raised and lowered on heavy screws operated by spiral gears and self-locking handwheel. The front and rear tables are hinged to the bed and can be instantly raised when planing very thin lumber.

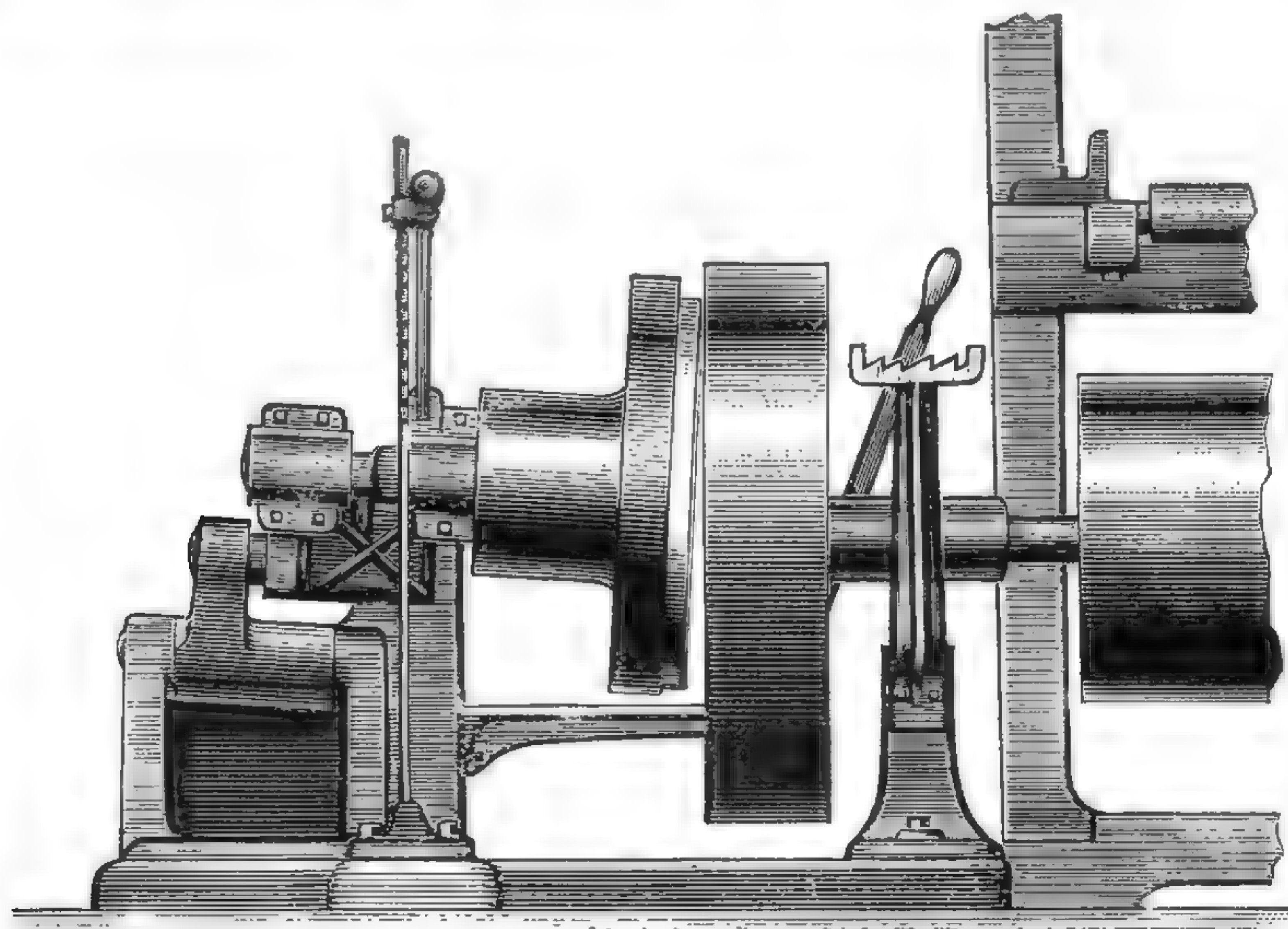
The feed is driven directly from a cone pulley on the countershaft and is stopped and started by a tightener on the feed belt. There are three rates of feed, 25, 50 and 70 feet per minute.

The pulley on the cutterhead is 5 inches in diameter by 5-inch face and should run 4,000 revolutions per minute. The countershaft has tight and loose pulleys 10 in. x 5 in. and should make 850 revolutions per minute.

Weight	Floor Space	Cubic Contents		Code Word
1,300 lbs.	3 ft. x 4 $\frac{1}{2}$ ft.	54 cu. ft.	With regular knives	"RATAN"
			With thin high-speed knives	"REFINE"



Variable Feeding Device

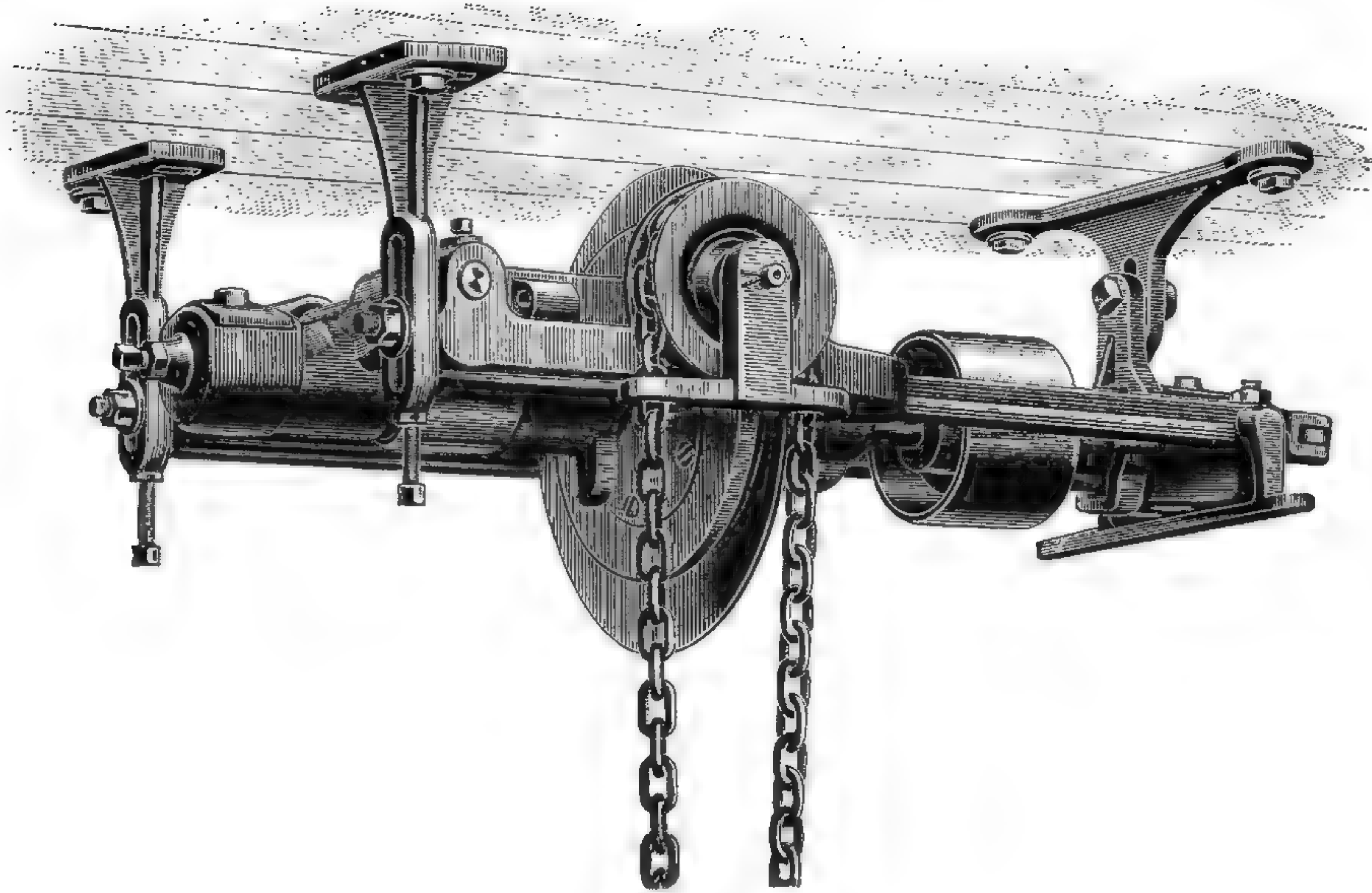


Our Variable Feeding Device for regulating the rate of feed of wood-working machinery is applied to our planers, self-feed rip saws and gang-edgers, greatly increasing their efficiency and making them superior to similar machines, not having this valuable feature.

It is a simple, durable and powerful device, enabling the operator to feed the heaviest timbers without slipping.

By its use the rate of feed can be instantly changed to suit the character of the work being done, and if desired the feed can be stopped or reversed and the lumber backed out of the machine. It is controlled by a single lever within reach of the operator, and is self-locking when set for the desired rate of feed.

This device is also largely used for driving all machines requiring variation in speed, such as Iron Planers, Drills, Mixing Machines, Grain Separators, Canning Machinery, etc.



Holmes' 12-inch Disc Variable Speed Countershaft

This cut shows our Variable Speed Countershaft with 12 inch disc; friction wheel 8 inches diameter. The driven pulley on the disc shaft is 5 inches diameter by $3\frac{1}{2}$ inches face, and the pulley on the friction wheel shaft is 3 inches diameter by $3\frac{1}{2}$ inches face. The greatest variation in the speed of the friction wheel is 4 to 1, for example—if the disc was driven 100 revolutions per minute, the friction wheel would run 140 revolutions per minute at the highest speed down to 35 revolutions per minute at the lowest speed.

Weight.

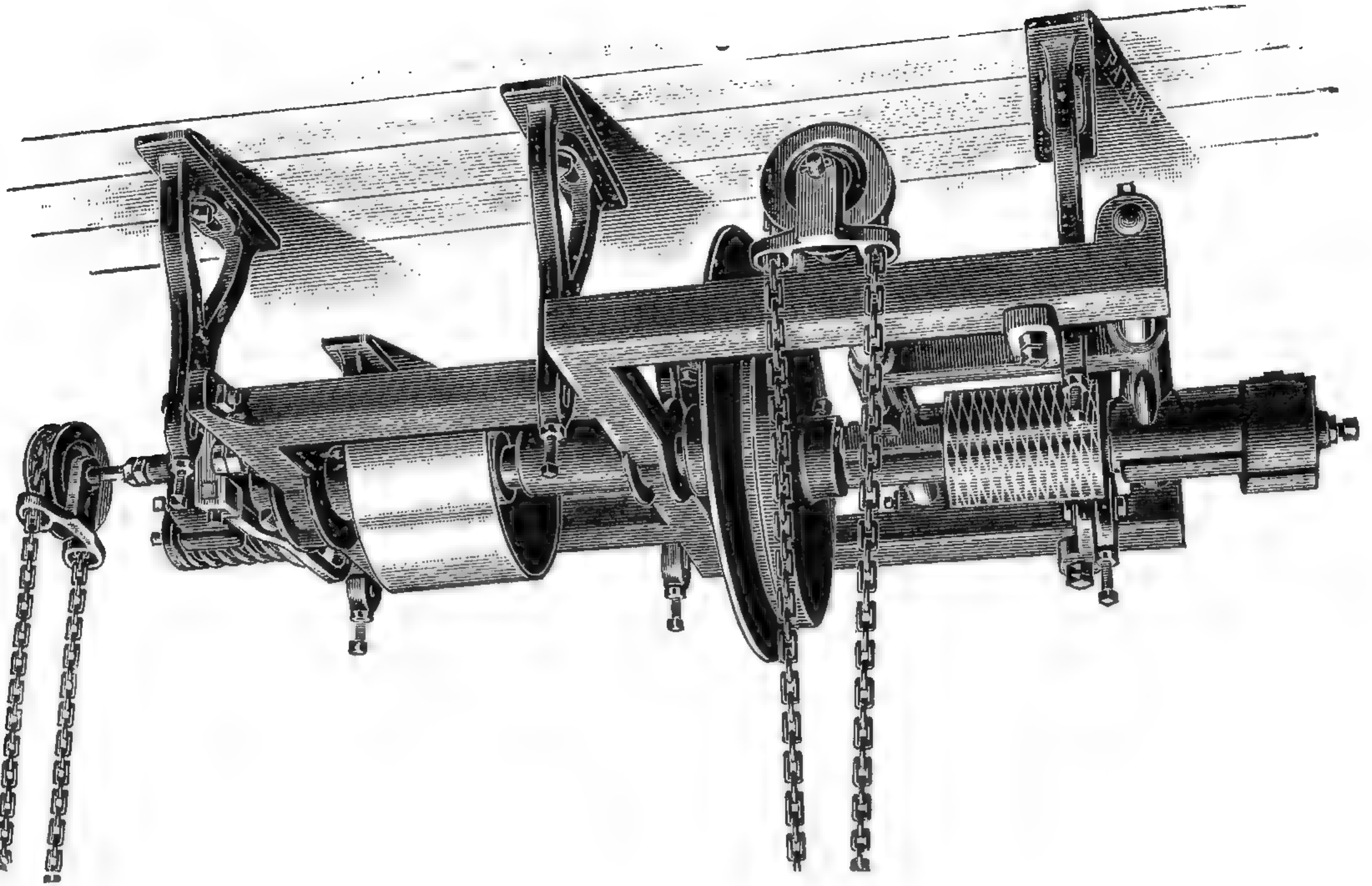
160 lbs.

Floor Space.

20 in. x 31 in.

Code Word.

TRIO.



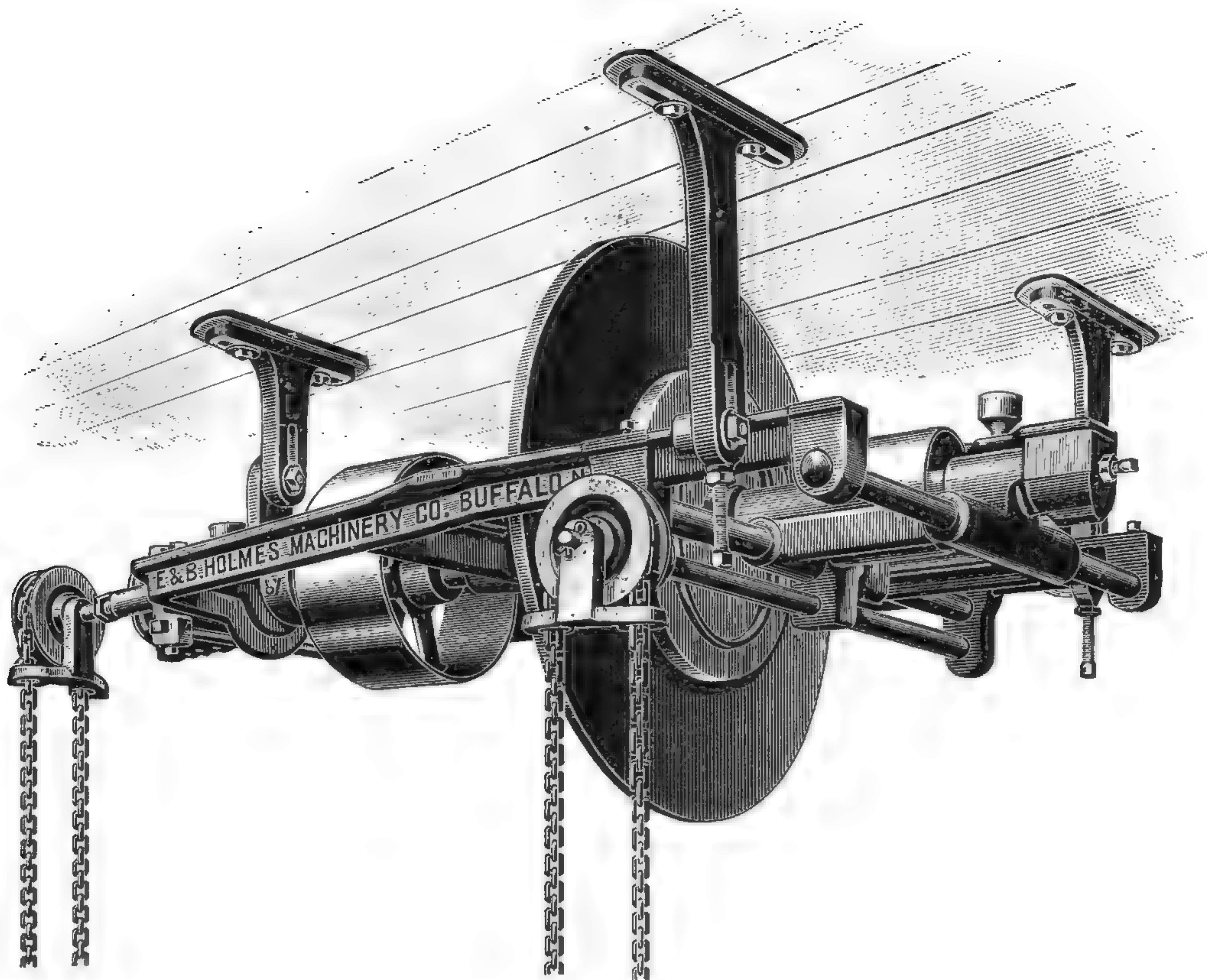
Holmes' 18-inch Disc Variable Speed Countershaft

This Cut shows our Variable Speed Countershaft with 18 inch disc; friction wheel 14 inches diameter; the driven pulley on the disc shaft is 10 inches diameter by 5½ inches face, and the pulley on the friction wheel shaft is 5 inches diameter by 5½ inches face. The greatest variation in the speed of the friction wheel is 6 to 1, for example—if the disc was driven 100 revolutions per minute, the friction wheel would run 150 revolutions per minute at the highest speed down to 25 revolutions per minute at the lowest speed.

Weight.
475 lbs.

Floor Space.
2 ft. 4 in. x 4½ ft.

Code Word.
TROPE.



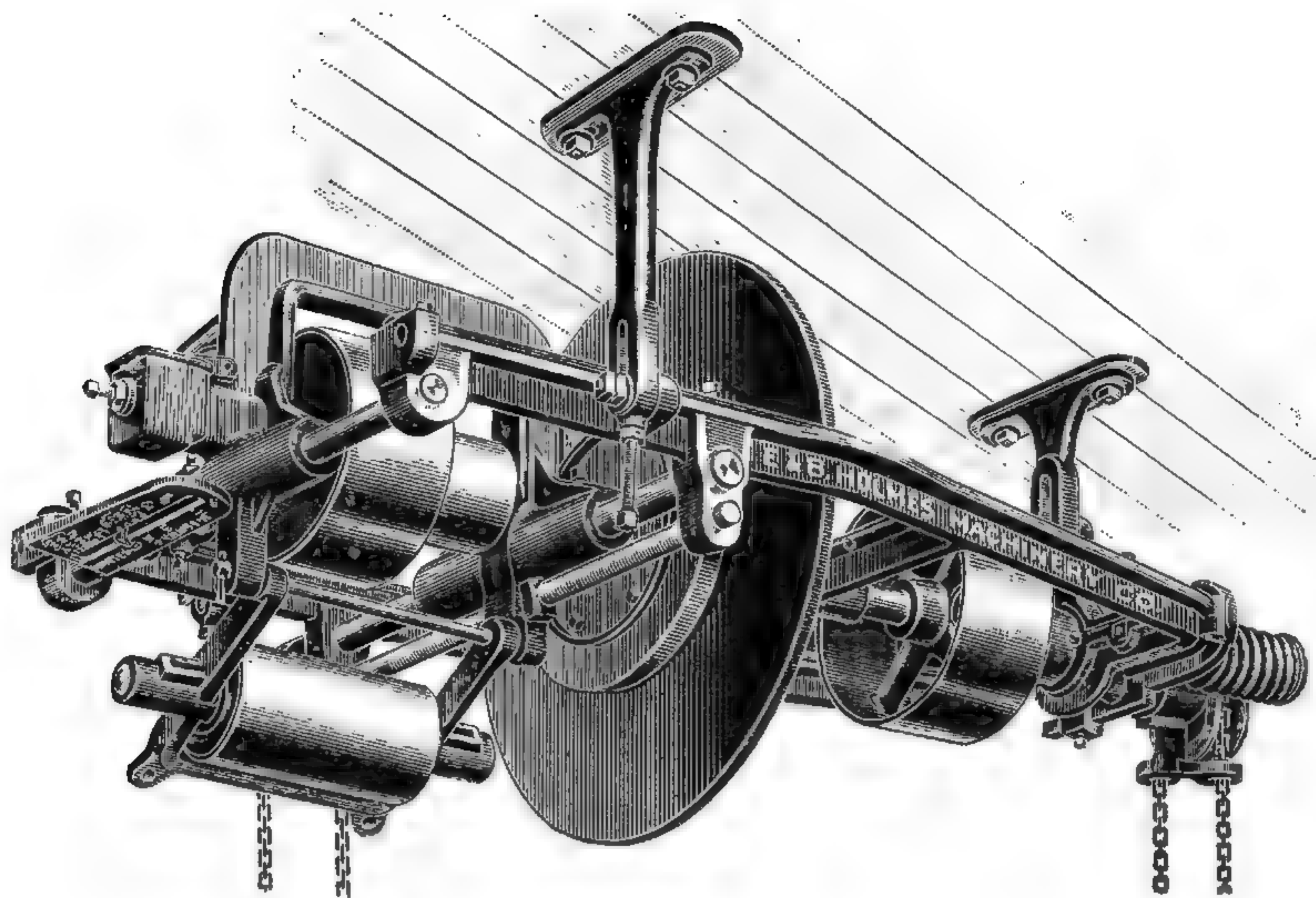
Holmes' 24-inch Disc Variable Speed Countershaft

This Cut shows our Variable Speed Countershaft, 24 inch disc; friction wheel 12 inches diameted; the driven pulley on the disc shaft is 10 inches diameter by 5½ inches face, and the pulley on the friction wheel shaft is 5 inches diameter by 5½ inches face; the size of the pulleys can be changed to suit special requirements, when necessary. The greatest variation in the speed of the friction wheel is 9 to 1, for example, with the disc driven 100 revolutions per minute, the friction wheel will run 180 at the highest speed and 20 revolutions at the lowest speed.

Weight.
480 lbs.

Floor Space.
3½ ft. x 4½ ft.

Code Word.
TROT.



Holmes' 24-inch Disc Variable Speed Countershaft

(Fitted With Cone Pulleys)

This cut shows our Variable Speed Countershaft with 24 inch disc; friction wheel 12 inches diameter; the driven pulley on the disc shaft is 10 inches diameter by $5\frac{1}{2}$ inches face and the Cone Pulleys on the friction wheel shaft are $4\frac{1}{2}$ inches and 9 inches diameter by $4\frac{1}{2}$ inches face. The greatest variation in the speed of the friction wheel is 9 to 1. This variation is doubled by the Cone Pulleys, which can be changed to suit special requirements when necessary.

Weight.

525 lbs.

Floor Space.

$3\frac{1}{2}$ ft. x 4 ft. 10 in.

Code Word.

TWAIN.

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Elma, NY USA*

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